Florida Power & Light Company, 6501 South Ocean Drive, Jensen Beach, FL 34957

October 3, 2002

L-2002-144
10 CFR 54

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Re: St. Lucie Units 1 and 2
Docket Nos. 50-335 and 50-389
Response to NRC Request for Additional Information for Review of the
St. Lucie Units 1 and 2 License Renewal Application

By letters dated July 1, 2002, July 18, 2002, and July 29, 2002, the NRC requested additional information regarding the St. Lucie Units 1 and 2 License Renewal Application (LRA) Sections 2.0, 3.0, 4.0 and Appendix B. Attachment 1 to this letter contains FPL's response to the requests for additional information (RAIs) associated with Scoping and Screening Results, Section 2.0 of the LRA. Section 2.1 Scoping and Screening Methodology RAIs were addressed in FPL Letter L-2002-139.

Should you have any further questions, please contact S. T. Hale at (772) 467-7430.

Very truly yours,

D. E. Jernigan
Vice President
St. Lucie Plant

DEJ/STH/hlo
Attachment (1)

A089

St. Lucie Units 1 and 2
Docket Nos. 50-335 and 50-389

Response to NRC Request for Additional Information Regarding the License Renewal Application, Section 2.0 - Scoping and Screening Results.

STATE OF FLORIDA)
) ss
COUNTY OF ST. LUCIE)

D. E. Jernigan being first duly sworn, deposes and says:

That he is Vice President – St. Lucie of Florida Power and Light Company, the Licensee herein;

That he has executed the foregoing document; that the statements made in this document are true and correct to the best of his knowledge, information and belief, and that he is authorized to execute the document on behalf of said Licensee.

D. E. Jernigan

Subscribed and sworn to before me this

3 day of October, 2002.

Leslie J. Whitwell

Name of Notary Public (Type or Print)

Leslie J. Whitwell
MY COMMISSION # DD020212 EXPIRES
May 12, 2005
BONDED THRU TROY FAIN INSURANCE, INC.

D. E. Jernigan is personally known to me.

cc: U.S. Nuclear Regulatory Commission, Washington, D.C.

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ST. LUCIE UNITS 1 AND 2
DOCKET NOS. 50-335 AND 50-389
ATTACHMENT 1
RESPONSE TO NRC REQUESTS FOR ADDITIONAL INFORMATION
FOR REVIEW OF THE ST. LUCIE UNITS 1 AND 2
LICENSE RENEWAL APPLICATION

2.2 PLANT LEVEL SCOPING

RAI 2.2 - 1

The NRC staff is unable to find descriptions of the air blower or sluice water in the updated final safety analysis reports (UFSARs). Table 2.2-1 of the LRA lists these systems as not being within the scope of license renewal. As such, the staff is unable to determine with reasonable assurance that these systems do not have intended functions that meet the criteria of Title 10, Section 54.4, of the *Code of Federal Regulations* (10 CFR 54.4). Provide a reference to the UFSAR section that describes these systems, or provide a summary description of their intended functions.

FPL Response

The air blower and sluice water support the Steam Generator Blowdown Treatment Facility (SGBTF) demineralizer resin transfer process. The St. Lucie Unit 1 UFSAR Section 10.4.7 and Unit 2 UFSAR Section 10.4.8 provide a general description of the SGBTF and its functions. The air blower is used to agitate the resin in the SGBTF spent resin tank in preparation for spent resin transfer. The sluice water is used to conduct SGBTF demineralizer resin transfer (sluicing) operations. Neither of these systems perform or support any license renewal system intended functions that satisfy the scoping criteria of 10 CFR 54.4(a).

RAI 2.2-2

Table 2.2-1 of the LRA does not include miscellaneous drains. On the basis of the plant internal flood analysis, documented in the Unit 1 and 2 Updated Final Safety Analysis Reports (UFSARs), it appears that the drain systems for many of the in-scope structures provide a flood protection barrier that supports the capability to shut down the reactor and maintain it in a safe shutdown condition. Degradation of these systems, such as blockage due to foreign material concentration or excessive corrosion, could invalidate the flooding analysis and prevent satisfactory accomplishment of the intended function of safety-related systems. Therefore, major portions of the plant/building drain system should be within the scope of license renewal and subject to an aging management review (AMR) per 10 CFR 54.4(a)(ii).

Examples of flooding analyses for Unit 2, which take credit for floor drains include:

- Break in the diesel generator building, page 3.6F-7.
- Break in the component cooling water building, page 3.6F-7.

Justify why these drain systems are considered to be outside the scope of license renewal or are not subject to an AMR.

FPL Response

The system designated Miscellaneous Drains in LRA Table 2.2-1 (page 2.2-3) is associated with Extraction Steam which is not within the scope of license renewal as stated in LRA Section 3.4 (page 3.4-1). The scoping of drains for license renewal (as they relate to the St. Lucie Units 1 and 2 UFSAR flooding analyses) is discussed below.

Units 1 and 2 Reactor Auxiliary Buildings and Fuel Handling Buildings

Drains for these buildings are included in the scope of license renewal and identified in LRA Table 3.3-16 (page 3.3-89) as part of Waste Management.

Unit 1 Emergency Diesel Generator Building, Unit 1 Component Cooling Water Area, Units 1 and 2 Diesel Oil Equipment Enclosures, and Units 1 and 2 Intake Structures

The Units 1 and 2 UFSARs do not credit drains in the internal flooding analyses for these structures.

Unit 2 Emergency Diesel Generator Building

For the Unit 2 Emergency Diesel Generator Building, the internal flooding event (see Unit 2 UFSAR Section 3.6F.2.2.1(e), page 3.6F-6a) evaluated is an assumed crack in non safety-related service water piping resulting in an 18 gpm leak. This UFSAR evaluation indicates that the entire flow from the crack would drain through the drainage system from the Emergency Diesel Generator Building. However, assuming no credit for the drain piping (i.e., complete blockage), the ultimate elevation of water accumulation in the Unit 2 Emergency Diesel Generator Building for this event would only reach several inches above floor level, at which point the water would begin draining under the two doorways in each room of the building. Drainage capacity under these doorways would be more than adequate to accommodate the 18 gpm leak rate from the cracked service water line. The flooding elevation reached is well

below the elevation of safety-related components, and therefore would not affect safety-related functions. Accordingly, the Unit 2 Emergency Diesel Generator drains do not perform or support any system intended functions that satisfy the scoping criteria of 10 CFR 54.4(a), and thus are not within the scope of license renewal.

Unit 2 Component Cooling Water Area

For the Unit 2 Component Cooling Water Area, the internal flooding event (see Unit 2 UFSAR Section 3.6F.2.2.1(h), pages 3.6F-7 to 3.6F-8) evaluated is an assumed crack in safety-related intake cooling water piping resulting in a 490 gpm leak. Additionally, as noted in this UFSAR section, operator action to isolate the leak is assumed to occur 30 minutes after the pipe failure. Assuming no credit for the drain piping (i.e., complete blockage), the ultimate elevation of water accumulation in the Unit 2 Component Cooling Water Area for this event would be well below the elevation of safety-related components, and therefore would not affect safety-related functions. Accordingly, the Unit 2 Component Cooling Water Area drains do not perform or support any system intended functions that satisfy the scoping criteria of 10 CFR 54.4(a), and thus are not within the scope of license renewal.

2.3 SCOPING AND SCREENING RESULTS – MECHANICAL SYSTEMS

2.3.1 Reactor Coolant System

RAI 2.3.1 - 1

The UFSARs for St. Lucie indicate that Units 1 and 2 are required to be in cold shutdown following some postulated fire events. However, the applicant states on page 3.1-11 of the LRA that the pressurizer spray heads do not perform or support any license renewal system intended functions that satisfy the scoping criteria of 10 CFR 54.4 and, therefore, are not within the scope of license renewal. The staff requests that the applicant explain whether the components, which spray water inside the pressurizer to condense steam (auxiliary spray), are relied upon to take the units to cold shutdown following the postulated fire events. Also consider postulated SBO events that require the Units to be in cold shutdown.

FPL Response

The Current Licensing Bases (CLBs) for St. Lucie Units 1 and 2 do not rely on pressurizer spray for Station Blackout (SBO) events (see Unit 1 UFSAR Section 15.2.13 and Unit 2 UFSAR Section 15.10). However, both units credit the use of auxiliary spray for Reactor Coolant System (RCS) pressure control in support of achieving cold shutdown following postulated fire events. Auxiliary spray is provided from Chemical and Volume Control via solenoid-operated auxiliary spray valves (see License Renewal Boundary Drawings 1-CVCS-02 and 2-CVCS-04). If the auxiliary spray valves are not available, the pressurizer power-operated relief valves (PORVs) are credited as an alternate means for RCS pressure control.

Since the auxiliary spray function is credited for plant shutdown during certain fire events, the pressurizer components that perform this function (spray nozzles and spray nozzle safe ends) are included in the scope of license renewal as identified in LRA Table 3.1-1 (pages 3.1-46 through 3.1-49). The license renewal intended function for these components is pressure boundary. However, the spray heads, which are attached to the spray nozzles inside the pressurizers, do not perform a pressure boundary function. The function of the pressurizer spray heads is to enhance the efficiency (i.e., RCS pressure control response time) of pressurizer spray during plant transients by atomizing the spray flow, thereby directly condensing the steam bubble.

Since the Fire Protection 10 CFR 50 Appendix R criteria allow up to 72 hours to achieve cold shutdown, this function is not required. It should be recognized that normal pressurizer spray flow is 375 gpm, whereas auxiliary spray flow with one charging pump is only 44 gpm. Therefore, the effectiveness of the spray head is diminished during its use in auxiliary spray. Failure of the spray head would not prohibit the 120°F spray water from entering the pressurizer and cooling the bulk pressurizer liquid volume. As previously mentioned, the flow rate of auxiliary spray utilizing one charging pump is 44 gpm. Assuming the normal liquid level of the pressurizer, the entire pressurizer liquid volume (approximately 6000 gallons) could be replaced in less than 3 hours during a plant cooldown. During a 72 hour period, this volume could be replaced multiple times, if required. This injection of cold water into the pressurizer, in combination with securing the normally energized proportional heaters, will result in significant cooling of the lower pressurizer shell. As a result, the lower pressurizer shell will act as a heat sink and cool the upper portion of the shell by direct conduction, in addition to its heat losses to the Containment environment. Condensation of the steam bubble will occur by heat transfer to the internal walls of the pressurizer and also to the liquid surface at the vapor/water interface.

Although some temperature stratification of the liquid volume may occur near the surface (i.e., vapor/water interface) as the steam condenses, the introduction of cold water into the top of the pressurizer will provide for mixing as the bulk fluid is drawn out the bottom of the pressurizer through the surge line. The pressurizer heat losses to ambient during normal power operation are compensated for by the proportional heaters which have a rated capacity of 300 kW. Approximately 50 kW of this capacity is required to makeup for ambient heat losses. In one hour these heaters supply approximately 170,000 BTUs of heat energy to maintain pressurizer temperature/pressure. Based upon the latent heat of vaporization, the amount of heat energy required (to be removed) to condense the entire 700 cu ft volume of steam at 653°F and 2225 psi is approximately 1.8 million BTUs. This further supports the conclusion that 72 hours provides ample time to reduce pressurizer pressure.

It should also be noted that although auxiliary spray is credited for achieving plant shutdown during certain fire events. Unit 2 UFSAR Section 9.3.4.3.1.3.4 (page 9.3-32) describes a method of achieving cold shutdown without the use of auxiliary spray or PORVs.

Therefore, the use of auxiliary spray (without spray heads) will provide adequate means to control primary system pressure, and the pressurizer spray heads do not perform or support any license renewal intended functions that satisfy the scoping criteria of 10 CFR 54.4(a).

This position is consistent with that accepted by the NRC as part of the Turkey Point Units 3 and 4 LRA review.

RAI 2.3.1 - 2

The applicant states on page 3.1-11 of the LRA that pressurizer thermal sleeves do not perform or support any license renewal system intended functions that satisfy the scoping criteria of 10 CFR 54.4 and, therefore, are not within the scope of license renewal. The applicant further states that the thermal sleeves are not part of the pressure boundary, but do provide thermal shielding to the surge and spray nozzles of the pressurizer to minimize fatigue for those nozzles, which might otherwise result from thermal cycles. Fatigue has been identified as an aging effect requiring a time-limited aging analysis (TLAA), and is analytically addressed in section 4.3.1 of the LRA. The staff concludes that since the thermal sleeves were credited in the TLAA for the nozzles (pressure boundary), they should require an aging management program. Operable thermal sleeves are relied upon to allow the nozzles to perform their intended safety functions during the extended period of operation and, therefore, the thermal sleeves should be within the scope of license renewal, pursuant to 10 CFR 54.4(a)(2). Furthermore, the Westinghouse Owners Group has committed in topical report WCAP-14574-A, "License Renewal Evaluation: Aging Management Evaluation for Pressurizers," and the staff has concurred that the pressurizer surge nozzle and the spray nozzle thermal sleeves should require an aging management review.

The staff requests that the applicant perform an aging management review of the subject components, or justify why one is not required.

FPL Response

Thermal sleeves are included in the design of the pressurizer surge and spray nozzles and are designed to protect these nozzles from thermal shock. Since the thermal sleeves are not part of the nozzle pressure boundary, their failure would not affect the nozzles pressure boundary intended function. However, the thermal sleeves are included in the fatigue analyses of the pressurizer surge and spray nozzles and these analyses have been identified as a time-limited aging analysis (TLAA) and dispositioned in LRA Subsection 4.3.1 (page 4.3-2). Accordingly, the thermal sleeves are considered to be within the scope of license renewal, pursuant to 10 CFR 54.4(a)(2) and require an aging management review.

The pressurizer surge and spray nozzle thermal sleeves are fabricated from Alloy 600 and are exposed to an environment of treated water – primary. The only aging effect requiring evaluation for the thermal sleeves is cracking. Cracking due to stress corrosion or primary stress corrosion was determined not to be an aging effect requiring management based on the relatively low stress applied to the thermal sleeves. As mentioned above, cracking due to fatigue has been identified as a TLAA and is addressed analytically in LRA Subsection 4.3.1. Accordingly, there are no aging effects requiring management for the thermal sleeves.

Note that this conclusion is consistent with that included NUREG-1801, "Generic Aging Lessons Learned (GALL) Report" (LRA Reference 3.1-1). Pressurizer thermal sleeves are included in Chapter IV of the GALL Report, Item C2.5.5. As indicated in the GALL Report table, the aging effect/mechanism identified for the thermal sleeves is cumulative fatigue damage/fatigue. The GALL Report further states that fatigue is a TLAA for the period of extended operation and further refers to NUREG-1800, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants," Section 4.3 "Metal Fatigue" for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1). No additional aging effects are identified in the GALL Report for pressurizer thermal sleeves.

Table 3.1-1 is revised as noted below.

TABLE 3.1-1
REACTOR COOLANT SYSTEMS

Component/ Commodity Group [GALL Reference]	Intended Function	Material	Environment	Aging Effects Requiring Management	Program/Activity
Pressurizers					
Internal Environment					
Surge nozzle thermal sleeves [IV C2.5.5] Spray nozzle thermal sleeves [IV C2.5.5]	Pressure boundary (Note 1)	Alloy 600	Treated water – primary	None	None required

Note: 1. The thermal sleeves are not part of the pressure boundary, but do provide thermal shielding to minimize nozzle low cycle thermal fatigue.

RAI 2.3.1 - 3

In Section 3.1.3 of the LRA, the applicant states that reactor vessel flange leak detection lines do not perform or support any license renewal system intended functions that satisfy the scoping criteria of 10 CFR 54.4 and, therefore, are not within the scope of license renewal. On the basis of the staff's experience with license renewal, the staff has generally concluded that the inner O-ring, the leakoff lines, and the outer O-ring all support the reactor vessel closure head flange pressure boundary. See the letter dated October 27, 1999, from C.I. Grimes of the NRC to D.J. Firth of the Babcock & Wilcox Owner's Group. In general, the leakoff lines require an aging management review. Please provide a site-specific technical justification for St. Lucie as to why aging management is not required, or perform an aging management review of these components.

FPL Response

The St. Lucie Units 1 and 2 reactor vessel closure heads are designed with an inner and outer self-energizing O-ring. In accordance with the original equipment specification for the reactor vessels, the O-rings perform a pressure boundary function for the closure heads and the specification requires that either the inner or outer O-ring be capable of sealing the vessel. Accordingly, the O-rings have been included in the scope of license renewal since they perform the license renewal intended function of pressure boundary. However, the O-rings are not long lived since they are replaced each refueling outage and, therefore, an AMR is not required.

The St. Lucie Combustion Engineering reactor vessel flange leak detection lines are not part of the reactor pressure vessel pressure boundary as the leak detection lines are classified as Quality Group D (non safety-related) in accordance with Regulatory Guide 1.26, "Quality Group Classifications and Standards for Water-, Steam-, and Radioactive-Waste-Containing Components of Nuclear Power Plants." Each leak detection line includes a 3/16-inch diameter orifice in the closure head, which would limit any potential reactor coolant system leakage to within charging pump capacity in the unlikely event of leakage past the inner O-ring. Since the leak detection lines are non safety-related and their potential failure would not prevent satisfactory accomplishment of any safety-related functions, they do not perform or support any license renewal intended functions that meet the scoping criteria of 10 CFR 54.4(a) and thus an AMR is not required.

2.3.2 Engineered Safety Features Systems

RAI 2.3.2 - 1

During the injection mode for a small break loss-of-coolant accident, a portion of the high pressure safety injection (HPSI) flow is returned to the refueling water tank (RWT) through the bypass line. A section of the bypass line (1-SI-02, location A7, and 2-SI-02, location B4) near the RWT is non-safety-related, and the LRA shows that it is not within the scope of license renewal. If this piping fails and flow is not returned to the RWT, the inventory of the tank could be prematurely exhausted. For both units, there are orifices in the bypass lines which restrict the maximum bypass flow. The Unit 1 bypass flow is 30 gpm per pump (per Table 6.3-2 of the Unit 1 UFSAR) for operation at rated HPSI flow. No specific bypass flow rate could be identified in the Unit 2 UFSAR. For breaks of sufficiently small size, the bypass flow can continue to leak out for a long period of time, potentially exhausting the supply of coolant from the RWT. The failure of the non-safety-related piping in the bypass line could prevent satisfactory accomplishment of the safety-related intended function of the HPSI system. Justify why the piping and valve body components in the bypass piping to the RWT are not within the scope of license renewal and subject to an aging management review.

FPL Response

The non safety-related safety injection piping identified in RAI 2.3.2-1 is classified Quality Group D consistent with the CLBs for St. Lucie Units 1 and 2. The function of these lines is to ensure that the minimum required flow for the high pressure safety injection (HPSI) pumps is provided during shutoff head conditions, such as periodic ASME Boiler and Pressure Vessel Code pump tests, to preclude hydraulic instability and pump overheating. The orifices installed in these lines limit flow to approximately 30 gpm per pump for both units. For Reactor Coolant System breaks of the size identified in RAI 2.3.2-1, emergency operating procedures require that the units be cooled down to the point that shutdown cooling can be initiated. Within a maximum of 10 hours of the event, shutdown cooling would be in service. Assuming failure of the HPSI pump recirculation line, a total refueling water tank (RWT) inventory of 18,000 gallons would be unavailable for use (30 gpm x 60 minutes x 10 hours). The minimum required Technical Specification levels for the Unit 1 and Unit 2 RWTs are 401,800 gallons and 417,100 gallons, respectively. Thus, RWT inventory is more than adequate for the scenario. Unit 1 UFSAR Section 6.3.2.2.4 and Unit 2 UFSAR Section 6.3.2.2.3 do not credit the recirculation path for anything other than pump minimum flow. Accordingly, this piping does not support or perform any license renewal intended functions that meet the scoping criteria of 10 CFR 54.4(a) and thus an AMR is not required.

RAI 2.3.2 - 2

The diagrams of the containment cooling system provided in drawings 1-HVAC-01 and 2-HVAC-02 for Units 1 and 2, respectively, are not sufficiently detailed for the staff to determine the intended system boundaries for license renewal. For example, these drawings do not show whether the applicant considered the duct riser and ring header to be within the scope of license renewal. The notation "to ring header" shown on the downstream side of the containment coolers does not clearly show what components are within the scope of license renewal. On page 6.2-36 of the UFSAR for Unit 2 the applicant states that blowout panels are provided on the duct risers between the fan coolers and ring header to attenuate high-pressure transmission from inside the secondary shield wall through the duct. Similar blowout panels are also described as components of the containment cooling system on page 6.2-50 of the UFSAR for Unit 1. However, blowout panels are not specifically identified as a component or commodity group in Table 3.2-1 of the LRA.

Clarify whether all appropriate containment cooling system components are included within the scope of license renewal and subject to an aging management review, and identify the components and commodity groups that include the ring ducts, risers, and blowout panels. If only a portion of the component cooling water system is within the scope of license renewal and subject to an aging management review, identify the boundary between the in-scope and out-of-scope portions by providing additional textual description, drawings, and/or references (such as designed-basis documents) to supplement the LRA and drawings already provided.

FPL Response

FPL's response assumes that the "component cooling water system" mentioned above is actually referring to Containment Cooling. FPL included the duct risers, ring headers, blowout panels, and all other components of Containment Cooling that perform license renewal system intended functions within the scope of license renewal, and AMRs were performed as appropriate. The duct risers, ring headers, and blowout panels for both units are included in the component grouping "Ducts" listed in LRA Table 3.2-1 (pages 3.2-10 and 3.2-13).

RAI 2.3.2 - 3

The containment isolation system comprises those portions of the containment purge, hydrogen purge (Unit 1), continuous containment/hydrogen purge (Unit 2), service air and containment vacuum relief that have a containment pressure boundary intended function. The Unit 2 containment vacuum relief system air accumulators are shown on license renewal drawing 2-HVAC-01 at location B7 as being within the scope of license renewal. These components are listed in Table 3.3-8 as belonging to the instrument air system. However, LRA Table 2.3-3 does not list drawing 2-HVAC-01 as showing portions of the instrument air system. Justify why these air accumulators are not within the scope of license renewal and subject to an aging management review.

FPL Response

The St. Lucie Unit 1 and Unit 2 drawings depict the containment vacuum relief accumulators on an Instrument Air drawing for Unit 1 and on a Ventilation drawing for Unit 2. The Units 1 and 2 air accumulators are in the scope of license renewal and require an AMR as indicated on LRA Table 3.3-8 (pages 3.3-54 and 3.3-57). The License Renewal Boundary Drawings are 1-IA-02 for Unit 1 and 2-HVAC-01 for Unit 2. 2-HVAC-01 was inadvertently omitted from LRA Table 2.3-3 (page 2.3-37) for Instrument Air.

RAI 2.3.2 - 4

On page 6.2-36 of the Unit 2 UFSAR, the applicant states that "blowout panels are provided on the duct risers between the fan coolers and ring header to attenuate high-pressure transmission from inside the secondary shield wall through the duct." Similar blowout panels are also described as components of the containment cooling system on page 6.2-50 of the Unit 1 UFSAR. However, blowout panels are not identified as a component or commodity group in Table 3.2-1 of the LRA. The staff believes that the blowout panels perform a safety-related intended function and, as such, should be within the scope of license renewal and subject to an aging management review (AMR). Justify why the blowout panels are considered to be outside the scope of license renewal or are not subject to an AMR.

FPL Response

As noted in the response to RAI 2.3.2-2, the containment cooling blowout panels are within the scope of license renewal and require an AMR. They are included in the component grouping "Ducts" listed in LRA Table 3.2-1 (pages 3.2-10 and 3.3-13).

RAI 2.3.2 - 5

Figure 6.2-46 of the Unit 1 UFSAR shows drum-type air outlets (at numerous locations) as components of the containment cooling system, but these outlets were neither identified in LRA Table 3.2-1 nor shown on License Renewal Boundary Drawing 1-HVAC-01. It appears that these components are passive and long-lived and, as such, should be within the scope of license renewal and subject to an AMR. Justify why these components are considered to be outside the scope of license or are not subject to an AMR.

FPL Response

As noted in the response to RAI 2.3.2-2, the containment cooling drum type outlets are within the scope of license renewal and require an AMR. They are included in the component grouping "Ducts" listed in LRA Table 3.2-1 (pages 3.2-10 and 3.2-13).

RAI 2.3.2 - 6

Figure 6.2-46 of the UFSARs for Units 1 and 2 shows gravity dampers (at numerous locations) as components of the containment cooling system. The housings for these components were neither identified in LRA Table 3.2-1 nor shown on License Renewal Boundary Drawings 1-HVAC-01 and 2-HVAC-01. It appears that these component housings are passive and long-lived and, as such, should be within the scope of license renewal and subject to an AMR. Justify why the gravity dampers are considered to be outside the scope of license or are not subject to an AMR.

FPL Response

Containment cooling gravity dampers were considered to be within the scope of license renewal because they support Containment Cooling system intended functions. Gravity dampers do not appear in LRA Table 3.2-1 (page 3.2-9) because they were considered to be active components, and thus not subject to an AMR in accordance with 10 CFR 54.21(a)(1)(i) and the guidance of NEI 95-10. However, based upon the NRC staff's position on previous license renewal applications and expectations conveyed at meetings with the staff, AMRs of the gravity damper housings for Containment Cooling have been performed. LRA Table 3.2-1 is revised to include the following:

LRA page 3.2-10 (Internal Environment)
LRA page 3.2-13 (External Environment)

TABLE 3.2-1
CONTAINMENT COOLING

Component/ Commodity Group [GALL Reference]	Intended Function	Material	Environment	Aging Effects Requiring Management	Program/Activity
Internal Environment					
Damper housings	Pressure boundary	Galvanized carbon steel	Indoor – not air conditioned	None	None required
External Environment					
Damper housings	Pressure boundary	Galvanized carbon steel	Containment air	None	None required

2.3.3 Auxiliary Systems

2.3.3.2 Component Cooling Water

RAI 2.3.3 - 1

Unit 1 license renewal boundary drawing 1-CCW-01 shows connections to temporary air conditioning chillers at four locations (D1, C1, C2, and C3). These chillers are shown as not being within the scope of license renewal; however, two of them are connected to essential loop A and two are connected to essential loop B. These chillers and their intended functions are not described in Section 9.2.2 of the Unit 1 UFSAR, which discusses the component cooling water system. Therefore, the staff is unable to verify that these chillers do not have an intended function that would meet the requirements of 10 CFR 50.54(a). Justify why these components are considered to be outside the scope of license renewal or are not subject to an AMR.

FPL Response

The chiller connections reflected on License Renewal Boundary Drawing 1-CCW-01 are for temporary, rented units utilized for air conditioning the Containment for human comfort during refueling outages. They are aligned to Component Cooling Water (CCW) through "outage use only" chiller connections, and are not utilized during normal power operations. Per the St. Lucie Technical Specifications, containment cooler operability is required in Modes 1, 2, and 3. The CCW header supply and return to the fan cooler units are isolated by closing MV-14-5, MV-14-6, MV-14-7, and MV-14-8, as shown on License Renewal Boundary Drawing 1-CCW-01, prior to operating the chillers, which may only be operated in Modes 5 and 6. Therefore, pressure boundary integrity of the "in-use" safety-related portions of CCW would not be affected by any postulated failures of the temporary chillers. Containment isolation during Modes 5 or 6 is provided by manual valves SB14517, SB14518, SB14519, and SB14520 (shown on License Renewal Boundary Drawing 1-CCW-01) as identified on Unit 1 UFSAR Table 6.2-16. Accordingly, the chiller connections are classified Quality Group D, non-nuclear safety-related, and the temporary air conditioning chillers do not perform or support any license renewal system intended functions that satisfy the scoping criteria of 10 CFR 54.4(a).

2.3.3.4 Diesel Generator And Support System

RAI 2.3.3 - 2

Table 3.3-4 of the LRA does not list certain diesel generator and support system components and their housings, which are identified below. Although the license renewal boundary drawings, which are cited below, identify them as being within the scope of license renewal. It appears that these components are passive and long-lived and, as such, should be within the scope of license renewal and subject to an aging management review. Justify why these components are excluded from Table 3.3-4.

The fuel oil system components that were omitted are the duplex strainers at location B4 of drawings 1-EDG-03 and 1-EDG-06, and at location G4 of drawings 1-EDG-02 and 1-EDG-05.

The lube oil system components and housings that were omitted are as follows:

- Immersion heaters at location C3 of drawings 1-EDG-02 and 1-EDG-05, location E5 of drawings 1-EDG-03 and 1-EDG-06, locations D6 and E5 of drawings 2-EDG-02 and 2-EDG-05, and locations D3 and E2 of drawings 2-EDG-03 and 2-EDG-06
- Y-strainers and a lube oil strainer at locations B4 and D5 of drawings 1-EDG-02 and 1-EDG-05, locations D3 and G4 of drawings 1-EDG-03 and 1-EDG-06, locations D3 and H3 of drawings 2-EDG-02 and 2-EDG-05, and locations C3 and E4 of drawings 2-EDG-03 and 2-EDG-06

FPL Response

Fuel Oil:

Duplex strainers at location B4 of License Renewal Boundary Drawings 1-EDG-03 and 1-EDG-06 and location G4 of License Renewal Boundary Drawings 1-EDG-02 and 1-EDG-05 are included in component grouping "Filter housings" listed in LRA Table 3.3-4 (pages 3.3-34 and 3.3-35).

Lube Oil:

- The immersion heaters noted in the RAI are actually in Emergency Diesel Generator Cooling Water. The heater housings are fabricated from carbon steel piping and are thus included in LRA Table 3.3-4 (pages 3.3-24 and 3.3-26) in component grouping "Piping/fittings." Immersion heater elements are considered electrical components and are discussed in LRA Section 2.5 (page 2.5-1). As noted in LRA Section 2.5, heaters are considered active components, and therefore no AMR is required.
- The Y-strainers at location B4 of License Renewal Boundary Drawings 1-EDG-02 and 1-EDG-05, location G4 of License Renewal Boundary Drawings 1-EDG-03 and 1-EDG-06, location H3 of License Renewal Boundary Drawings 2-EDG-02 and 2-EDG-05, and location C3 of License Renewal Boundary Drawings 2-EDG-03 and 2-EDG-06 are included in component grouping "Filter housings" and are listed in LRA Table 3.3-4 (pages 3.3-38 and 3.3-39). The elements for the Y-strainers were determined to be short-lived and therefore no AMR is required. Preventive maintenance activities provide for replacement of these elements every 18 months. The lube oil strainers at location D5 of License Renewal Boundary Drawings 1-EDG-02 and 1-EDG-05, location D3 of License Renewal Boundary Drawings 1-EDG-03 and 1-EDG-06, location D3 of License Renewal Boundary Drawings

2-EDG-02 and 2-EDG-05, and location E4 of License Renewal Boundary Drawings 2-EDG-03 and 2-EDG-06 are included in component grouping "Filter housings" and are listed in LRA Table 3.3-4 (pages 3.3-38 and 3.3-39). The elements for the lube oil strainers are classified as "Filter elements" and are also included in LRA Table 3.3-4 (page 3.3-38).

2.3.3.6 Fire Protection

RAI 2.3.3 - 3

The NRC staff is unable to identify the suppression systems for the cable spreading rooms (Unit 1-Halon 1301 and Unit 2-Preaction System) on the license renewal boundary drawings. Identify where these suppression systems are on a drawing or provide a description of the systems.

FPL Response

There are no P&IDs of the Unit 1 Halon System. This system is described in the St. Lucie Unit 1 USFAR Chapter 9.5A, Section 3.3, pages 9.5A-116 and -117. The Unit 2 cable spreading room preaction sprinkler system is on vendor drawings and was thus not included with the LRA boundary drawings. The vendor drawings are available on-site for review. License Renewal Boundary Drawings 1-FP-04 and 2-FP-01 show part of the supply piping to the preaction system, and Note 1 on these drawings explains that the remainder of the system is shown on vendor drawings. The Unit 2 cable spreading room preaction sprinkler system is described in Unit 2 UFSAR Chapter 9.5A, Section 3.3, pages 9.5A-108a and 9.5A-109. All passive, long-lived components associated with the Unit 1 Halon System and Unit 2 cable spreading room preaction sprinklers are included in LRA Table 3.3-6 (pages 3.3-42, 3.3-43, 3.3-45, and 3.3-46).

2.3.3.7 Fuel Pool Cooling

RAI 2.3.3 - 4

The spent fuel pool cooling systems are acceptable, based in part on the diversity of makeup water sources to the spent fuel pool. At Unit 1, the makeup water sources include the refueling water storage tank and three other water storage tanks. At Unit 2, makeup to the fuel pool is also provided from the refueling water tank via the refueling water pool purification pump and piping. The Unit 1 and 2 UFSARs reference multiple makeup sources; however, license renewal boundary drawings 1-SFP-01 and 2-SFP-01 do not show the piping and valves associated with the makeup line from the refueling water storage tanks to be within the scope of license renewal. The refueling water storage tanks are within the scope of license renewal. Justify why the piping and valves are considered to be outside the scope of license renewal or are not subject to an AMR.

FPL Response

Section 9.2.3 of the original Safety Evaluation Report (SER) for St. Lucie Unit 1 states that a fire hose can be connected to the seismic Category I Intake Cooling Water at two points to provide makeup, and that the applicant would provide the results of an analysis of the potential for damage to the stored fuel by use of this salt water. The original NRC SER stated further that if NRC review indicated that unacceptable damage could be caused, the fuel exposed to salt water would not be reloaded into the reactor, and that, based on this requirement, the design was acceptable. The results of the further NRC review are discussed in Supplement 1 to this SER. Section 9.2.3 of Supplement 1 to this SER states that this evaluation was performed and that for the anticipated time that the salt water makeup would be in use, no unacceptable corrosion of fuel elements or support structures would occur. Based on additional information provided, the NRC also concluded that it would be unlikely that the sea water method of cooling would be needed since several other makeup sources are available. Although SER Supplement 1 recognizes the availability of alternate non-seismically qualified makeup sources, these sources were not relied on for meeting design requirements.

Pursuant to Section 1.7 of the St. Lucie Unit 1 UFSAR, Safety Guide 13 provided the guidance for the fuel storage facility design basis when Unit 1 was licensed. Item C.8 (pages 13.2 and 13.3) of this safety guide states:

> "A seismic Category I makeup system should be provided to add coolant to the pool. Appropriate redundancy or [emphasis added] a backup system for filling the pool from a reliable source such as a lake, river or onsite seismic Category I water storage facility should be provided. If a backup system is used it need not be a permanently installed system. The capacity of the makeup systems should be such that water can be supplied at a rate determined by consideration of the leakage rate that would be expected as the result of damage to the fuel storage pool from the dropping of loads, from earthquakes, or from missiles originating in high winds."

The only source of makeup to the St. Lucie Unit 1 spent fuel pool that satisfies this requirement is Intake Cooling Water, which is redundant, seismic Category I, missile protected, and powered by the emergency diesel generators. Additionally, the only spent fuel pool makeup source specifically evaluated in Section 9.1.3.4.3.2 of the St. Lucie Unit 1 UFSAR is Intake Cooling Water. Therefore, neither the conclusion in SER Supplement 1 nor the St. Lucie Unit 1 UFSAR

require the inclusion of any additional piping in the scope of license renewal beyond that currently reflected on the license renewal boundary drawings.

The Unit 2 makeup system for the spent fuel pool is described in Unit 2 UFSAR Section 9.1.3.3.1. Section 9.1.3 of the original SER for St. Lucie Unit 2 states that "A seismic Category I makeup is provided to supply sea water to the fuel pool from a stand pipe through a hose," and that this source "... will not cause unacceptable corrosion" to the fuel assemblies or structures. Although makeup is provided from the refueling water tank via non-seismic purification pump and piping, FPL neither stated nor implied that diverse methods of makeup were the basis for the acceptance of system design. In reality, the design criteria cited would require a seismic Category I makeup supply. Based on the above, only the salt water makeup from intake cooling water is credited in safety analyses for makeup to the spent fuel pool for St. Lucie Units 1 and 2.

Therefore, the conclusion in SER Supplement 1 does not require inclusion of any additional piping in the scope of license renewal beyond that currently reflected on the License Renewal Boundary Drawings.

2.3.3.8 Instrument Air

RAI 2.3.3 - 5

Table 3.3-8 of the LRA does not list certain instrument air system components and/or their housings, which are identified below. Although the license renewal boundary drawings, which are cited below, identify them as being within the scope of license renewal. It appears that these components are passive and long-lived and, as such, should be within the scope of license renewal and subject to an AMR. Justify why these components are excluded from Table 3.3-8.

- Oil/water separator (at location F6 of drawing 1-IA-06)
- Moisture separators (at locations C3 and E3 of drawing 1-IA-06, and locations B3 and D3 of drawing 2-IA-04)
- Oil coolers (at locations F2 and H2 of drawing 2-IA-04)

FPL Response

The specific items noted in RAI 2.3.3-5 are addressed below:

- The oil/water separator is included in component grouping type "Filters" and is listed in LRA Table 3.3-8 (pages 3.3-52 and 3.3-57).
- Moisture separators are included in component grouping "Filters" and are listed in LRA Table 3.3-8 (pages 3.3-52 and 3.3-57).
- The oil coolers for instrument air compressors 2C and 2D are internal to the compressors and were thus treated as integral parts of the compressor. The instrument air compressors were determined to be active components and not subject to an AMR consistent with 10 CFR 54.21(a)(1)(i) and the guidance of NEI 95-10.

RAI 2.3.3 - 6

License renewal boundary drawing 1-IA-06 indicates that the Unit 1 instrument air dryers and associated equipment are within the scope of license renewal. However, drawing 2-IA-04 indicates that the Unit 2 instrument air dryers are outside the scope of license renewal.

In Section 9.3.1 of the Unit 1 and 2 UFSARs, the applicant discusses the ability to cross-connect the Unit 1 and Unit 2 instrument and station air systems. On the basis of the information provided, the staff cannot determine, with reasonable assurance, that the instrument air dryers for Unit 2 should not be within the scope of license renewal and subject to an AMR. Justify why the Unit 2 instrument air dryers are considered to be outside the scope of license renewal or are not subject to an AMR.

FPL Response

The Unit 2 instrument air compressors and air dryers are not relied on to perform or support any license renewal system intended functions that satisfy the scoping criteria of 10 CFR 54.4(a) for Unit 2. Unit 2 instrument air compressors 2A and 2B are included in the scope of license renewal, however, because they are credited for supplying air for isolation of the Unit 1 feedwater control valves during certain postulated fire events on Unit 1. The Unit 2 air dryers are located downstream of the cross-connect line to Unit 1 (location F7 on License Renewal Boundary Drawing 2-IA-04) and are not in service during this operational alignment. Therefore, the Unit 2 air dryers are not required to perform or support any license renewal system intended functions that satisfy the scoping criteria of 10 CFR 54.4(a).

RAI 2.3.3 - 7

In Section 9.3.1.2 of the Unit 1 and 2 UFSARs, the applicant states that each unit has four air compressors. At both units, air compressors 1C and 1D are each capable of full-load capacity and are used for normal operation, while air compressors 1A and 1B have only a partial-load capacity. On license renewal boundary drawing 2-IA-04 at locations F2 and H2, the applicant indicates that the Unit 2 instrument air compressors 2C and 2D are within the scope of license renewal. On drawing 1-IA-06 at locations F2 and H2, the applicant indicates that the Unit 1 instrument air compressors 1C and 1D are outside the scope of license renewal. On the basis of the information provided, the staff cannot determine, with reasonable assurance, whether all four air compressors for Unit 1 should be within the scope of license renewal and subject to an AMR. Justify why two of the Unit 1 air compressors are considered to be outside the scope of license renewal or are not subject to an AMR.

FPL Response

Supply of instrument air is required on Unit 1 for a Station Blackout (SBO) event, and for safe shutdown following certain postulated fires (see Unit 1 UFSAR Sections 8.3 and 15.2.13). During a Unit 1 SBO event, Unit 1 instrument air compressors 1C and 1D do not operate since they are supplied by non-vital power. Unit 1 instrument air compressors 1A and 1B are, however, credited for Unit 1 SBO because they can be manually loaded onto a vital bus, and powered via the 4 kV crosstie from Unit 2 by one of the two Unit 2 Emergency Diesel Generators. For certain postulated fire events on Unit 1, the Unit 2 instrument air compressors are credited via use of an instrument air cross-tie between the units (see FPL response to RAI 2.3.3-6). Therefore, Unit 1 instrument air compressors 1C and 1D are not required to perform or support any license renewal system intended functions that satisfy the scoping criteria of 10 CFR 54.4(a).

RAI 2.3.3 - 8

The boundary of the portion of the instrument air system that is within the scope of license renewal ends at valves that are shown as normally open (see license renewal boundary drawing 1-IA-03 at locations C5, C7, D5, and H6; drawing 1-IA-05 at locations A2 and A5; and drawing 2-IA-04 at location C5). Failure of the downstream piping may affect the pressure boundary intended function. In Section 2.3.3.8 of the LRA, the applicant states that this approach is acceptable because sufficient time exists to close the open valves for the station blackout and fire scenarios for which this system is needed.

Provide additional information to support the basis for this determination. For example, discuss the steps in the station blackout and fire procedures for closing the valves, the amount of time required to complete these steps, and the availability of sufficient air inventory if the valves are not closed.

FPL Response

Only a limited number of components in the scope of license renewal require Instrument Air to perform their intended function. Unit 1 Instrument Air supplied by the 1A and 1B instrument air compressors is credited for supporting the atmospheric dump valve operation during Unit 1 Station Blackout (SBO) events, and portions of Unit 1 and Unit 2 Instrument Air supplied by the 2A, 2B, 2C, and 2D instrument air compressors are credited for supporting the isolation function of the Unit 1 feedwater flow control valves during fire events in Unit 1. Additionally, various valves in this system are credited for being manually actuated for isolation and venting the instrument air to close pneumatic actuated valves during fire events. Therefore, only those portions of the system that are in the main flow path from the instrument air compressors to the applicable components are designated as within the scope of license renewal.

Instrument Air boundaries have been established at the first manual isolation valves on branch lines off of these required flow paths. It is not expected that these open valves would actually require closing, only that sufficient time exists if closure was needed. Pursuant to 10 CFR 50 Appendix R, cold shutdown must be attained within 72 hours. Therefore, ample time exists and procedure changes are not required. Although these boundary valves are normally open, they are considered acceptable license renewal boundaries for the following reasons:

- Instrument Air supplies air to many active components required for normal plant operation. Since a catastrophic failure of the system components due to aging is not expected following a fire or SBO, and loss or reduction of air pressure due to degraded conditions is typically detected early, overall system function is not affected.
- Instrument Air is predominantly constructed of galvanized steel and bronze making it very resistant to general corrosion, thus most of the Instrument Air material condition issues are associated with leaks at mechanical connections, not significant failures.
- Instrument Air is designed with substantial redundancy and capacity. Based on FPL studies, Instrument Air requirements are 400 scfm per unit during normal operation. Each unit has two full capacity and two half capacity air compressors which together provide over six times the normal operating requirements for Unit 1. As discussed above, the Instrument Air needs to meet the license renewal intended functions are minimal.

This position is consistent with that accepted by the NRC as part of the Turkey Point Units 3 and 4 LRA review.

2.3.3.9 Intake Cooling Water

RAI 2.3.3 - 9

In Section 2.3.3.9 of the LRA, the applicant states that the intake cooling water system provides a safety-related makeup source for spent fuel pool cooling. It appears that the temporary hoses shown at location D7 on license renewal boundary drawings 1-ICW-01 and 2-ICW-01 for Units 1 and 2, respectively, are required to perform this spent fuel pool makeup intended function and, therefore, are within the scope of license renewal. Furthermore, it appears that these components are passive and long-lived and, therefore, should be subject to an AMR. However, these components are not listed in Table 3.3-9 of the LRA. Justify why the temporary hoses are excluded from Table 3.3-9 of the LRA.

FPL Response

As described in Section 9.1.3.4.3.2 of the Unit 1 UFSAR, fire hoses may be temporarily connected and utilized to provide Intake Cooling Water makeup water to the spent fuel pool as a backup water source. Similar hose connections exist on Unit 2 Intake Cooling Water and Spent Fuel Pool Cooling (Unit 2 UFSAR 9.1.3). License Renewal Boundary Drawings 1-ICW-01 and 2-ICW-01 depict the location to install the fire hoses, if needed. These fire hoses could be obtained from any site fire hose house and connected in the event they were needed. As stated in LRA Section 2.3.3.6 (page 2.3-19), fire hoses are within the scope of license renewal, but they are replaced based on condition in accordance with NFPA guidelines, and therefore, are not subject to an AMR.

RAI 2.3.3 - 10

In LRA Section 2.4.2.10, "Intake Structures," the applicant states that water enters each intake structure through four submerged openings and passes through the stationary and traveling screens before entering the rear of the intake structure where the pumps are located. It appears that these screens perform an intended function by preventing debris and organisms from reaching and causing the failure of the safety-related intake cooling water pumps and strainers. As such, these screens would be within the scope of license renewal and subject to an AMR. The staff was unable to locate these components either in LRA Table 3.3-9 for the intake cooling water system, or in Table 3.5-11 for the intake structure. Justify why the traveling screens are considered to be outside the scope of license renewal or are not subject to an AMR.

FPL Response

Stationary and traveling screens were determined not to be within the scope of license renewal because they do not perform or support any license renewal system intended functions that satisfy the scoping criteria of 10 CFR 54.4(a). These components support normal plant power operation, but their failure does not affect the safety-related function of Intake Cooling Water (ICW). During plant power operation, the non safety-related circulating water pumps draw a significant flow of cooling water through the intake structure to support main condenser cooling requirements. The flow velocity in each intake bay during power operation is approximately 1.2 ft/sec. This flow rate creates the potential for debris or organisms to enter the intake. As a result, stationary and traveling screens are provided to enhance reliability of plant power operation.

In comparison to the circulating water pumps, the safety-related ICW pumps draw a small amount of cooling water through the intake. Any significant degradation or failures of the screens during power operation would be evident and detected by plant operators far in advance of a complete failure. Even in case of total failure, floating or heavy debris would not affect ICW pump operation due to the low velocities at the suction of the ICW pumps. The flow velocity in each intake bay with only the ICW pumps in operation is approximately 0.13 ft/sec. As discussed in Section 9.2.1.3 of the St. Lucie Unit 1 and Unit 2 UFSARs, the ICW pumps and heat exchangers are evaluated for design basis accident heat removal with suspended materials of up to 1/2 inch and silt. Additionally, the component cooling water heat exchangers are protected from suspended solids by the basket strainers, that are included in LRA Table 3.3-9 (pages 3.3-59 and 3.3-62).

2.3.3.10 Miscellaneous Bulk Gas Supply

RAI 2.3.3 - 11

The miscellaneous bulk gas supply (MBGS) system is common to both Units 1 and 2. In Section 2.3.3.10 of the LRA, the applicant states that portions of the MBGS system are within the scope of license renewal. Table 3.3-10 of the LRA identifies those MBGS system structures and components that are within the scope of license renewal and subject to an AMR. However, because of the limited description of the MBGS system provided in Section 9.3.1 of the Unit 1 UFSAR, the staff is unable to determine, with reasonable assurance, that the applicant has correctly identified the components that are within the scope of license renewal. The staff is also unable to identify which of the components shown on the four license renewal boundary drawings referenced in Table 2.3-3 (1-SAMP-02, 2-SAMP-03, 2-CS-01, and 2-IA-05) belong to the MBGS system and whether other components not shown on any of the referenced drawings are required for the system to perform its intended function.

Provide additional information concerning the design and intended functions of the MBGS system. Clarify the depiction of the MBGS system in the referenced drawings, and identify which specific components are within the scope of license review.

FPL Response

Portions of Miscellaneous Bulk Gas penetrate the Containments and thus provide a containment integrity function. Miscellaneous Bulk Gas isolation valves which perform a containment integrity function and are within the scope of license renewal are shown on License Renewal Boundary Drawings 1-SAMP-02 (V29217, V29324, V29213, V29334, V29305 & V29306) and 2-SAMP-03 (V29455, V29434, V29456). Additionally, portions of Miscellaneous Bulk Gas form part of the boundary of interfacing safety-related components and thus provide a safety-related pressure boundary function (Unit 2 nitrogen supply to the Containment Spray hydrazine storage tank, valve V29431 and downstream piping on License Renewal Boundary Drawing 2-CS-01), and are therefore within the scope of license renewal.

Miscellaneous Bulk Gas is also relied on in safety analyses or plant evaluations to perform a function that demonstrates compliance with NRC regulations for fire protection (e.g., limiting hydrogen concentration anywhere in the Unit 2 Reactor Auxiliary Building (RAB) to less than 2% in the event of a hydrogen pipe rupture). Excess flow isolation valve V29462 and associated upstream piping and valve V29169 are located in the Unit 2 RAB and are included in the scope of license renewal as shown on License Renewal Boundary Drawing 2-IA-05.

2.3.3.11 Primary Makeup Water System

RAI 2.3.3 - 12

The boundary of the portion of the primary makeup water system that is within the scope of license renewal ends at valves that are shown as normally open (see license renewal boundary drawing 2-PW-01 at locations H4 and H5). Failure of the downstream piping may affect the pressure boundary intended function. In LRA Section 2.3.3.11, "Primary Makeup Water," the applicant states that this approach is acceptable because Unit 2 primary makeup water is only required in the event of a fire in the Unit 2 containment or Unit 2 fuel handling building, and the open boundary valves are closed for these fire scenarios.

Provide additional information to support the basis for this determination. For example, discuss the steps in the fire procedures for closing the valves, the amount of time required to complete these steps, and the availability of sufficient water inventory if the valves are not closed.

FPL Response

Boundary valves V15518, V15353, and V15579 are normally open valves. In order to assure the flow path for the Unit 2 Primary Makeup Water fire protection function, these valves are procedurally controlled such that they will be closed, if open, when Primary Makeup Water is required for the hose stations inside the Unit 2 Containment. Additionally, even though valve HCV-15-1 is a primary containment isolation valve, it must also be open when Primary Makeup Water is required for the hose stations. Therefore, HCV-15-1 is also procedurally controlled such that it is manually opened, if closed, when Primary Makeup Water is required for these hose stations.

2.3.3.14 Turbine Cooling Water - Unit 1 only

RAI 2.3.3 - 13

On license renewal boundary drawing 1-TCW-01, the licensee indicates the components that are within the scope of license renewal. However, Table 3.3-14 of the LRA does not include all of these components. Justify why the following components are excluded from Table 3.3-14:

- Instrument air aftercoolers shown on license renewal boundary drawing 1-TCW-01 at locations A4, C4, and D4.
- Jackets for the service air compressor shown at location B4 on drawing 1-TCW-01
- Instrument air compressors 1A and 1B shown at locations B4 and D4 on drawing 1-TCW-01

If these components were included in Table 3.3-14 under the category of "piping/fittings," clarify why Table 3.3-14 does not list a heat transfer intended function for these components.

FPL Response

The instrument air compressor aftercoolers are addressed under Instrument Air and are listed in LRA Table 3.3-8 (pages 3.3-51, 3.3-52 and 3.3-56). The tube side ("Instrument air compressor cooler tubes" on page 3.3-51) includes both heat transfer and pressure boundary as intended functions.

Instrument air compressors 1A and 1B are in the scope of license renewal, but do not require an aging management review because they are active components in accordance with 10 CFR 54.21(a)(1)(i) and the guidance of NEI 95-10.

Instrument air and service air jacket coolers are also in the scope of license renewal but do not require aging management review. The coolers are an integral part of the air compressors and are therefore considered active components in accordance with 10 CFR 54.21(a)(1)(i) and the guidance of NEI 95-10.

Note that the service air compressor aftercooler was inadvertently omitted from LRA Table 3.3-14. The aftercooler for service air has no heat transfer requirements, but does perform a function of pressure boundary for Turbine Cooling Water. LRA Table.3.3-14 is revised as shown below:

LRA page 3.3-73 (Internal Environment)
LRA page 3.3-74 (External Environment)

TABLE 3.3-14
TURBINE COOLING WATER (UNIT 1 ONLY)

Component/ Commodity Group	Intended Function	Material	Environment	Aging Effects Requiring Management	Program/Activity
Internal Environment					
Service air compressor cooler tubes	Pressure boundary	Copper	Treated water - other	Loss of material	Chemistry Control Program
			Air/gas (wetted)	Loss of material	Periodic Surveillance and Preventive Maintenance Program
Service air compressor cooler shell	Pressure boundary	Carbon steel	Treated water - other	Loss of material	Chemistry Control Program
External Environment					
Service air compressor cooler shell	Pressure boundary	Carbon steel	Indoor - not air conditioned	Loss of material	Systems and Structures Monitoring Program

RAI 2.3.3 - 14

Clarify the intended support function of the Unit 1 turbine cooling water system that led to the determination that only the Unit 1 turbine cooling water system is within the scope of license renewal. Confirm that the Unit 2 turbine cooling water system does not perform a similar intended function.

FPL Response

During a Unit 1 Station Blackout (SBO) event, instrument air compressors 1A and 1B are credited because they can be manually loaded onto a vital bus (see Unit 1 UFSAR Sections 8.3 and 15.2.13). A portion of Unit 1 Turbine Cooling Water provides the cooling water source for these compressors and thus is in the scope of license renewal. Unit 2 instrument air compressors 2A and 2B are not required to address SBO at either unit. Therefore, Unit 2 Turbine Cooling Water is not required to perform or support any license renewal system intended functions that satisfy the scoping criteria of 10 CFR 54.4(a).

RAI 2.3.3 - 15

The license renewal rule, 10 CFR 50.54(a)(3), requires an applicant to include those structures, systems, and components (SSCs) that are relied on in a safety analysis or plant evaluation to perform a function which demonstrates compliance with 10 CFR 50.48, "Fire protection," to be included within the scope of the license. In general, operating licenses contain a license condition for fire protection that defines the 10 CFR 50.48 fire protection program. The license condition states that the licensee "shall implement and maintain in effect the provisions of the approved fire protection program" as described in the UFSAR and/or as approved in a safety analysis.

Comparing the applicable information contained in the LRA with the UFSAR, the staff identified SSCs in the UFSAR that were not included within the scope of license renewal. A sampling review by staff has identified the hydropneumatic tank and appurtenances (provides pressure maintenance for fire water system), and nitrogen tank for gaseous suppression system (pilot pressure for system actuation) that are included in the safety analysis, yet were not identified to be within the scope of license renewal.

Clarify the current licencing basis, consistent with 10 CFR 50.48, with respect to scoping for license renewal. Using the examples above, justify why SSCs listed in the UFSAR are considered to be outside the scope of license renewal.

FPL Response

FPL's methodology for scoping pursuant to 10 CFR 54.4(a)(3) for fire protection for St. Lucie Units 1 and 2 is described in LRA Subsection 2.1.1.4.1 (page 2.1-7). This methodology calls for a review of the Current Licensing Bases (CLB) and other design documents down to the component level, and is the same as that utilized for Turkey Point Units 3 and 4 license renewal. This methodology has undergone two NRC scoping and screening audits as part of the Turkey Point Units 3 and 4 and St. Lucie Units 1 and 2 license renewal reviews with no issues identified. Additionally, the NRC regional scoping and screening inspection for Turkey Point Units 3 and 4 did not identify issues related to fire protection scoping. Finally, the NRC Region II inspection team will verify the adequacy of fire protection scoping and screening during the upcoming NRC regional scoping and screening inspection for St. Lucie Units 1 and 2. Based on the above, FPL is confident that all SSCs relied on in safety analyses or plant evaluations to demonstrate compliance with 10 CFR 50.48 have been identified as within the scope of license renewal. In a few cases, there are fire protection SSCs described in the St. Lucie Units 1 and 2 UFSARs that are not within the scope of license renewal. In these cases, the SSCs are not relied on to demonstrate compliance with 10 CFR 50.48, but are described in the UFSAR typically for information purposes only.

Further discussion for the two specific examples in RAI 2.3.3–15 are provided below.

Hydropneumatic Tank

As stated in St. Lucie Unit 1 UFSAR Section 9.2.6.2 and Unit 2 UFSAR Section 9.2.4.2, the hydropneumatic tank is part of Potable and Sanitary Water (includes Service Water). As stated in both UFSARs, these systems serve no safety function since neither is required to achieve safe shutdown nor to mitigate the consequences of a design basis accident. Unit 1 UFSAR, Chapter 9.5A, makes the following statements with regard to the hydropneumatic tank:

Page 9.5A-46

"The entire fire suppression water supply system is maintained under pressure in the range of 95 to 125 psig by means of a hydropneumatic tank, pressurized by domestic water pumps. The fire pumps are designed for automatic starting when the fire main pressure drops to greater than or equal to 85 psig."

Page 9.5A-109

"The use of the hydropneumatic tank for small makeup and the maintenance of a system pressure helps prevent frequent starting of the motor driven pump."

"The fire water system, when not operating, is kept pressurized by a hydropneumatic tank. This tank pressure is maintained in the range of 95 to 125 psig by the domestic water pumps. If a manual or automatic water fire suppression system is actuated causing fire water system pressure to decrease both fire pumps start automatically when the header pressure drops to greater than or equal to 85 psig."

"A timing device for sequential pump starts is not installed in accordance with NFPA-20, but the intent of NFPA-20 is met with the alternate configuration which incorporates a hydropneumatic tank to keep the system full of water to prevent water hammer, and is powered by separate electrical busses to prevent system electrical overload."

Page 9.5A-114

"The sizing of the domestic water pumps and hydropneumatic tank is designed to keep the fire loop pressurized between 95 and 125 psig during normal operation."

Similar statements are made in the Unit 2 UFSAR on pages 9.5A-45, 9.5A-105, and 9.5A-106.

The hydropneumatic tank was determined not to be in the scope of license renewal for the following reasons.

1. Although the hydropneumatic tank normally maintains pressure on the fire main, it is isolated by check valves upon start of the fire pumps. Thus, the tank is not in service when Fire Protection is performing its system intended functions.
2. If the hydropneumatic tank is assumed not to be in service during normal operation, the fire pumps would start more frequently. This condition, although a maintenance consideration for the fire pumps, would not prevent Fire Protection from performing its system intended functions. Operability of the fire pumps is assured through periodic flow testing in accordance with the Fire Protection Program. There is no requirement in the Units 1 and 2 UFSARs for a pressure maintenance system to satisfy fire protection requirements.
3. The statements with regard to NFPA-20 are related to requirements for automatic controls associated with sequential start of the fire pumps. The hydropneumatic tank is not credited in satisfying these NFPA-20 requirements, because the fire pumps will start when the fire main pressure drops to greater than or equal to 85 psig regardless of the condition of the hydropneumatic tank. St. Lucie Unit 1 (includes fire water supplies for both units) was designed to the 1972 version of NFPA-20, which does not require a pressure maintenance system.

4. The hydropneumatic tank is not included in the "fire protection plan" as defined in 10 CFR 50.48.

Based on the above, the hydropneumatic tank does not perform or support any system intended functions that satisfy the scoping criteria of 10 CFR 54.4(a), and thus is not within the scope of license renewal.

Nitrogen Tank

Unit 1 UFSAR Chapter 9.5A, Section 3.1.3, Page 9.5A-117 describes the nitrogen tank, as a small, vendor supplied cartridge. This cartridge is in the scope of license renewal, and was inadvertently omitted from Table 3.3-6. Table 3.3-6 is modified as follows:

LRA page 3.3-42 (Internal Environment)
LRA page 3.3-45 (External Environment)

TABLE 3.3-6
FIRE PROTECTION

Component/ Commodity Group [GALL Reference]	Intended Function	Material	Environment	Aging Effects Requiring Management	Program/ Activity
Internal Environment					
Unit 1 Halon nitrogen tank [VII.I.1.1]	Pressure boundary	Carbon steel	Air/gas	None	None required
External Environment					
Unit 1 Halon nitrogen tank [VII.I.1.1]	Pressure boundary	Carbon steel	Indoor – not air conditioned	Loss of material	Fire Protection Program

2.3.3.15 Ventilation

RAI 2.3.3.15 - 1

The ventilation system license renewal boundary drawings, which are identified below, show damper components for both Units 1 and 2; however, LRA Table 3.3-15 does not identify the housings for these dampers. It appears that these component housings are passive and long-lived and, as such, should be within the scope of license renewal and subject to an AMR. Justify why these components are considered to be outside the scope of license renewal or are not subject to an AMR.

NOTE: Numbers added by FPL to correlate response to specific question.

- Unit 1 on license renewal boundary drawing 1-HVAC-01, Rev. 0
  1. Hot shutdown panel housing for fans HVS-9 and HVE-35 at locations E7 and D7
  2. Unlabeled damper housing at locations E7

- Unit 1 on license renewal boundary drawing 1-HVAC-02, Rev. 0
  1. Control room cooling system damper housings D-17 at location B5, D-18 at location B6, D-19 at location C6, GD-5 at location B6, GD-6 at location C6, D-20 at location A7, D-21 at location B7, D-22 at location C7, GD-7 at location A8, GD-8 at location B8, GD-9 at location C8, D-29A at location C4, D-29B at location C5, D-41 at location C8, D-42 at location C7, and unlabeled at locations C8 and D8
  2. Control room cooling system fan housings HVE-13A at location B6; HVE-13B at location C6; HVA-3A, 3B, and 3C at locations A7, B7, and C7, respectively; HVA-10A at location C8; and 10B at location D8
  3. Control room cooling system charcoal adsorber housings for heating, ventilation and air conditioning (HVAC) units HVE-13A and 13B at location B5
  4. Emergency core cooling system area ventilation fan housings HVS-4A and 4B at locations D2 and E2, and HVE-9A and 9B at locations D5 and E5
  5. Emergency core cooling system area ventilation damper housings L-8 at location E1; GD-3 at location D2; GD-4 at location E2; D-1, D-2 , D-3, and D-4 at location D3; D-8A and D-8B at location E3; GD-12 at location E3; D-7A and D-7B at location F3; D-9A and D-9B at location D4; D-12A and D-12B at location E4; D-5A and D-5B at location E4; D-6A and D-6B at location F4; D-13 and D-14 at location D4; D-15 and D-16 at location E4; L-7A at location D5; and L-7B at location E5
  6. Housings for battery room exhaust fans RV-1 and RV-2 at location G3, and an unlabeled gravity damper housing at location G3
  7. Housings for electrical equipment room fans HVS-5A and HVS-5B at locations G5 and H5, RV-3 and RV-4 at locations G5 and G6, and HVE-11and HVE-12 at locations G6 and H6
  8. Housings for electrical equipment room dampers L-11 at location G4, GD-1 and GD-2 at location G5, unlabeled dampers at locations G5 and G6, and L-9 and L-10 at locations G6 and H6
  9. Housings for shield building ventilation fans HVE-6A and 6B at locations D7 and F7

10. Housings for shield building ventilation dampers GD-10 and D-23 at location D7, and GD-11 and D-24 at location F7
11. Housings for outdoor air conditioning units ACC-3A, ACC-3B, and ACC-3C at locations A7, B7, and C7
12. Housings for air handling units HVA-10A and HVA-10B at locations C8 and D8

- Unit 2 on license renewal boundary drawing 2-HVAC-01, Rev. 0
  1. Intake structure exhaust fan housings 2HVE-41A and 41B at location F5
  2. Housings for unlabeled intake structure pressure dampers at location F5

- Unit 2 on license renewal boundary drawing 2-HVAC-02, Rev. 0
  1. Control room cooling system damper housings D-17A at location A3; D-17B, D-20, D-21, and D-22 at location C3; D-18 at location A4; D-19 at location B4; GD-5 at location A4; GD-6 at location B4; unlabeled at locations A5, B5, and C5; GD-7 at location A6; GD-8 at location B6; GD-9 at location C6; DPR-25-2 at location A6; DPR-25-4 at location B6; DPR-25-3 at location C6; D39 at location C5; and D40 at location D5
  2. Control room cooling system fan housings 2HVE-13A at location A4 and 2HVE-13B at location B4
  3. Housings for air handling unit fans 2HVA/ACC-3A at location A6, 2HVA/ACC-3B at location B, and 2HVA/ACC-3C at location C6
  4. Control room cooling system charcoal adsorber housings for HVAC units 2HVE-13A and 13B at locations A4 and B4
  5. Emergency core cooling system area ventilation fan housings 2HVS-4A and 4B at locations D2 and E2, and 2HVE-9A and 9B at locations D5 and E5
  6. Emergency core cooling system area ventilation damper housings 2L-8 at location E1; unlabeled at locations D2 and E2; D-1, D-2, D-3, and D-4 at location D3; GD-12 at location E3; D-7B at location F3; unlabeled at location F3 (total of 3); D-9A and D-9B at location D4; D-12A and D-12B at location E4; D-13 at location D4; D-15 at location E4; D-14 at location D5; D-16 at location E5; 2L-7A at location D7; and 2L-7B at location E7
  7. Housings for battery room exhaust fans RV-1, RV-2, RV-3, and RV-4 at location H2, and unlabeled damper at location G2
  8. Housings for electrical equipment room fans 2HVS-5A and 5B at locations G3 and H3, and 2HVE-11 and 12 at location H4
  9. Housings for electrical equipment room dampers 2L-11 at location G3, GD-1 and GD-2 at locations G3 and H3, 2FDPR-25-123 and 2FDPR-25-119 at location G4, and GD-19 and GD-20 at locations G4 and H4

- Unit 2 on license renewal boundary drawing 2-HVAC-03, Rev 0
  1. Fuel handling building ventilation damper housings D-29 and D-30 at location B2, D-33 and D-34 at location C2, D-31 and D-32 at location B4, D-35 and D-36 at location C4
  2. Housings for shield building ventilation fans 2HVE-6A and 6B at locations D6 and F6
  3. Housings for shield building ventilation dampers GD-10 at location D6, D-23 at location D7, GD-11 at location F6, and D-24 at location F7

FPL Response

As noted in LRA Subsection 2.1.2.1 (page 2.1-12), active/passive determinations were performed based on the guidance of Appendix B of NEI 95-10.

Consistent with that guidance, fans and dampers (including their housings) are defined as active components and thus do not require an AMR. However, based upon the NRC staff's position on previous license renewal applications and expectations conveyed at prior meetings with the staff, housings for fans and dampers have been included in the aging management review for the applicable ventilation systems. Changes to LRA Table 3.3-15 (pages 3.3-75 through 3.3-88), if required, as a result of the above are addressed in the specific responses below.

- License Renewal Boundary Drawing 1-HVAC-01
  1. HVS 9 is included in Miscellaneous Ventilation in component grouping "Filter housings" and HVE-35 is included in Miscellaneous Ventilation in component grouping "Ducts" in LRA Table 3.3-15 (page 3.3-82).
  2. Unlabeled damper at E7 is in Miscellaneous Ventilation. See Table 2.3.3.15-1-4 for changes to LRA Table 3.3-15 associated with component grouping "Damper housings."

- License Renewal Boundary Drawing 1-HVAC-02
  1. Dampers D-17, D-18, D-19, GD-5, GD-6, D-20, D-21, D-22, GD-7, GD-8, GD-9, D-29A, D-29B, D-41, and D-42 are in Control Room Air Conditioning. See Table 2.3.3.15-1-1 for changes to LRA Table 3.3-15 associated with component grouping "Damper housings." The unlabeled dampers at C8 and D8 are in Miscellaneous Ventilation. See Table 2.3.3.15-1-4 for changes to LRA Table 3.3-15 associated with component grouping "Damper housings."
  2. Fan housings HVE-13A and HVE-13B are in Control Room Air Conditioning. See Table 2.3.3.15-1-1 for changes to LRA Table 3.3-15 associated with component grouping "Fan housings." Fan housings HVA-3A, HVA-3B, and HVA-3C are included in Control Room Air Conditioning in component grouping "Filter housings" in LRA Table 3.3-15 (pages 3.3-76 and 3.3-77). Fan housings HVA-10A and HVA-10B are included in Miscellaneous Ventilation in component grouping "Filter housings" in LRA Table 3.3-15 (page 3.3-82).
  3. The control room air conditioning charcoal adsorbers are housed inside an air-handling unit (which also houses the filter), the fans housing is included in component grouping "Filter housings" in LRA Table 3.3-15, pages 3.3-76 and 3.3-77.
  4. Fan housings HVS-4A and HVS-4B are included in Reactor Auxiliary Building (RAB) Main Supply and Exhaust in component grouping "Shell for HVS-4A and HVS-4B plenum and filters" in Table 3.3-15 (pages 3.3-85 and 3.3-86). Fan housings HVE-9A and HVE-9B are in Emergency Core Cooling System (ECCS) Area Ventilation. See Table 2.3.3.15-1-2 for changes to LRA Table 3.3-15 associated with component grouping "Fan housings."
  5. Dampers L-8, GD-3, GD-4, D-1, D-2, D-3, D-4, D-8A, D-8B, GD-12, D-7A, D-7B, D-9A, D-9B, D-12A, D-12B, D-5A, D-5B, D-6A, and D-6B, are in RAB Main Supply and Exhaust. See Table 2.3.3.15-1-6 for changes to LRA Table 3.3-15 associated with component grouping "Damper housings." Dampers D-13, D-14, D-15, and D-16, and L-7A and L-7B are in ECCS Area Ventilation. See Table 2.3.3.15-1-2 for changes to LRA Table 3.3-15 associated with component grouping "Damper housings."

6. Fan housings RV-1 and RV-2 are in RAB Electrical and Battery Room Ventilation. See Table 2.3.3.15-1-5 for changes to LRA Table 3.3-15 associated with component grouping "Fan housings." Gravity Damper at location G3 is in RAB Electrical and Battery Room Ventilation. See Table 2.3.3.15-1-5 for changes to LRA Table 3.3-15 associated with component grouping "Damper housings."
7. Fan housings HVS-5A and HVS-5B are included in RAB Electrical and Battery Room Ventilation in component grouping "Shell for HVS-5A and HVS-5B plenum and filters" in Table 3.3-15 (pages 3.3-83 and 3.3-84). Fan housings RV-3, RV-4, HVE-11 and HVE-12 are in RAB Electrical and Battery Room Ventilation. See Table 2.3.3.15-1-5 for changes to LRA Table 3.3-15 associated with component grouping "Fan housings."
8. Dampers L-9, L-10, and L-11 are mounted in the wall of the RAB, and thus do not have housings. Dampers GD-1, GD-2, and the unlabeled dampers at G-5 and G-6 are in RAB Electrical and Battery Room Ventilation. See Table 2.3.3.15-1-5 for changes to LRA Table 3.3-15 associated with component grouping "Damper housings."
9. Fan housings HVE-6A and HVE-6B are in Shield Building Ventilation. See Table 2.3.3.15-1-7 for changes to LRA Table 3.3-15 associated with component grouping "Fan housings."
10. Dampers GD-10, D-23, GD-11 and D-24 are in Shield Building Ventilation. See Table 2.3.3.15-1-7 for changes to LRA Table 3.3-15 associated with component grouping "Damper housings."
11. The control room air conditioning outdoor air conditioning units ACC-3A, ACC-3B, and ACC-3C are active components, therefore they do not require an AMR.
12. Fan housings HVA-10A and HVA-10B are included in Miscellaneous Ventilation in component grouping "Filter housings" in LRA Table 3.3-15 (page 3.3-82).

- License Renewal Boundary Drawing 2-HVAC-01
  1. Fans 2HVE-41A and 2HVE-41B are mounted in the roof of the intake cooling water pump enclosure, and thus do not have housings.
  2. Dampers are mounted in the wall of the intake structure, and thus do not have housings.

- License Renewal Boundary Drawing 2-HVAC-02
  1. Dampers D-17A, D-17B, D-20, D-21, D-22, D-18, D-19, GD-5, GD-6, GD-7, GD-8, GD-9, DPR-25-2, DPR-25-3, DPR-25-4, D-39, D-40, and unlabeled dampers at locations A5, B5, and C5 are in Control Room Air Conditioning. See Table 2.3.3.15-1-1 for changes to LRA Table 3.3-15 associated with component grouping "Damper housings."
  2. Fan housings 2HVE-13A and 2HVE-13B are in Control Room Air Conditioning. See Table 2.3.3.15-1-1 for changes to LRA Table 3.3-15 associated with component grouping "Fan housings."
  3. Fan housings 2HVA/ACC-3A, 2HVA/ACC-3B, and 3HVA/ACC-3C are included in Control Room Air Conditioning in component grouping "Filter housings" in LRA Table 3.3-15 (pages 3.3-76 and 3.3-77).
  4. The control room air conditioning charcoal adsorbers are housed inside an air-handling unit (which also houses the filter), the fans housing is included in component grouping "Filter housings" in LRA Table 3.3-15, pages 3.3-76 and 3.3-77.

5. Fan housings 2HVS-4A and 2HVS-4B are included in RAB Main Supply and Exhaust in component grouping "Shell for HVS-4A and HVS-4B plenum and filters" in Table 3.3-15 (pages 3.3-85 and 3.3-86). Fan housings 2HVE-9A and 2HVE-9B are in ECCS Area Ventilation. See Table 2.3.3.15-1-2 for changes to LRA Table 3.3-15 associated with component grouping "Fan housings."
6. Dampers 2L-8, D-1, D-2, D-3, D-4,GD-12, D-7B, D-9A, D-9B, D-12A, D-12B and the unlabeled dampers at locations D2, E2, and F3 are in RAB Main Supply and Exhaust. See Table 2.3.3.15-1-6 for changes to LRA Table 3.3-15 associated with component grouping "Damper housings." Dampers D-13, D-14, D-15, and D-16, and 2L-7A and 2L-7B are in ECCS Area Ventilation. See Table 2.3.3.15-1-2 for changes to LRA Table 3.3-15 associated with component grouping "Damper housings."
7. Fan housings RV-1, RV-2, RV-3 and RV-4 are in RAB Electrical and Battery Room Ventilation. See Table 2.3.3.15-1-5 for changes to LRA Table 3.3-15 associated with component grouping "Fan housings." The unlabeled damper at G-2 is in RAB Electrical and Battery Room Ventilation. See Table 2.3.3.15-1-5 for changes to LRA Table 3.3-15 associated with component grouping "Damper housings."
8. Fan housings 2HVS-5A, 2HVS- 5B, 2HVE-11, and 2HVE-12 are in RAB Electrical and Battery Room Ventilation. See Table 2.3.3.15-1-5 for changes to LRA Table 3.3-15 associated with component grouping "Fan housings."
9. Damper 2L-11 is mounted in the wall of the RAB, and thus does not have a housing. Dampers GD-1, GD-2, 2FDPR-25-123, 2FDPR-25-119, GD-19, and GD-20 are in RAB Electrical and Battery Room Ventilation. See Table 2.3.3.15-5 for changes to LRA Table 3.3-15 associated with component grouping "Damper housings."

- License Renewal Boundary Drawing 2-HVAC-03

1. Dampers D-29, D-30, D-31, D-32, D-33, D-34, D-35, and D-36 are in Fuel Handling Building Ventilation. See Table 2.3.3.15-1-3 for changes to LRA Table 3.3-15 associated with component grouping "Damper housings."
2. Fan housings 2HVE-6A and 2HVE-6B are in Shield Building Ventilation. See Table 2.3.3.15-1-7 for changes to LRA Table 3.3-15 associated with component grouping "Fan housings."
3. Dampers GD-10, D-23, GD-11 and D-24 are in Shield Building Ventilation. See Table 2.3.3.15-1-7 for changes to LRA Table 3.3-15 associated with component grouping "Damper housings."

TABLE 2.3.3.15-1-1

LRA page 3.3-76 (Internal Environment)
LRA page 3.3-78 (External Environment)

TABLE 3.3-15
VENTILATION

Component/ Commodity Group	Intended Function	Material	Environment	Aging Effects Requiring Management	Program/Activity
Control Room Air Conditioning					
Internal Environment					
Fan housings	Pressure boundary	Carbon steel	Air/gas	None	None required
Damper housings	Pressure boundary	Galvanized carbon steel Carbon steel	Air/gas	None	None required
External Environment					
Fan housings	Pressure boundary	Carbon steel	Indoor – not air conditioned	Loss of material	Systems and Structures Monitoring Program
Damper housings	Pressure boundary	Galvanized carbon steel	Indoor – not air conditioned	None	None required
		Carbon steel	Indoor – not air conditioned	Loss of material	Systems and Structures Monitoring Program

TABLE 2.3.3.15-1-2

LRA page 3.3-79 (Internal Environment)
LRA page 3.3-80 (External Environment)

TABLE 3.3-15
VENTILATION

Component/ Commodity Group	Intended Function	Material	Environment	Aging Effects Requiring Management	Program/Activity
Emergency Core Cooling Systems Area Ventilation					
Internal Environment					
Fan housings	Pressure boundary	Carbon steel	Air/gas	None	None required
Damper housings	Pressure boundary	Galvanized carbon steel Carbon steel	Air/gas	None	None required
External Environment					
Fan housings	Pressure boundary	Carbon steel	Indoor – not air conditioned	Loss of material	Systems and Structures Monitoring Program
Damper housings	Pressure boundary	Galvanized carbon steel	Indoor – not air conditioned	None	None required
		Carbon steel	Indoor – not air conditioned	Loss of material	Systems and Structures Monitoring Program

TABLE 2.3.3.15-1-3

LRA page 3.3-81

TABLE 3.3-15
VENTILATION

Component/ Commodity Group	Intended Function	Material	Environment	Aging Effects Requiring Management	Program/Activity
Fuel Handling Building Ventilation					
Internal Environment					
Damper housings	Pressure boundary	Galvanized carbon steel	Air/gas	None	None required
External Environment					
Damper housings	Pressure boundary	Galvanized carbon steel	Indoor – not air conditioned	None	None required

TABLE 2.3.3.15-1-4

LRA page 3.3-82

TABLE 3.3-15
VENTILATION

Component/ Commodity Group	Intended Function	Material	Environment	Aging Effects Requiring Management	Program/Activity
Miscellaneous Ventilation					
Internal Environment					
Damper housings	Pressure boundary	Galvanized carbon steel Carbon steel	Air/gas	None	None required
External Environment					
Damper housings	Pressure boundary	Galvanized carbon steel	Indoor – not air conditioned	None	None required
		Carbon steel	Indoor – not air conditioned	Loss of material	Systems and Structures Monitoring Program

TABLE 2.3.3.15-1-5

LRA page 3.3-83 (Internal Environment)
LRA page 3.3-84 (External Environment)

TABLE 3.3-15
VENTILATION

Component/ Commodity Group	Intended Function	Material	Environment	Aging Effects Requiring Management	Program/Activity
Reactor Auxiliary Building Electrical and Battery Room Ventilation					
Internal Environment					
Fan housings	Pressure boundary	Aluminum Carbon steel	Air/gas	None	None required
Damper housings	Pressure boundary	Galvanized carbon steel Carbon steel	Air/gas	None	None required
External Environment					
Fan housings	Pressure boundary	Aluminum	Outdoor	None	None required
		Carbon steel	Indoor – not air conditioned	Loss of material	Systems and Structures Monitoring Program
Damper housings	Pressure boundary	Galvanized carbon steel	Indoor – not air conditioned	None	None required
		Carbon steel	Indoor – not air conditioned	Loss of material	Systems and Structures Monitoring Program

TABLE 2.3.3.15-1-6

LRA page 3.3-85 (Internal Environment)
LRA page 3.3-86 (External Environment)

TABLE 3.3-15
VENTILATION

Component/ Commodity Group	Intended Function	Material	Environment	Aging Effects Requiring Management	Program/Activity
Reactor Auxiliary Building Main Supply and Exhaust					
Internal Environment					
Damper housing	Pressure boundary	Galvanized carbon steel Carbon steel	Air/gas	None	None required
External Environment					
Damper housing	Pressure boundary	Galvanized carbon steel	Indoor – not air conditioned	None	None required
		Carbon steel	Indoor – not air conditioned	Loss of material	Systems and Structures Monitoring Program
			Borated water leaks	Loss of material	Boric Acid Wastage Surveillance Program

TABLE 2.3.3.15-1-7

LRA page 3.3-87 (Internal Environment)
LRA page 3.3-88 (External Environment)

TABLE 3.3-15
VENTILATION

Component/ Commodity Group	Intended Function	Material	Environment	Aging Effects Requiring Management	Program/Activity
Shield Building Ventilation					
Internal Environment					
Fan housings	Pressure boundary	Carbon steel	Air/gas	None	None required
Damper housing	Pressure boundary	Carbon steel	Air/gas	None	None required
External Environment					
Fan housings	Pressure boundary	Carbon steel	Indoor - not air conditioned	Loss of material	Systems and Structures Monitoring Program
Damper housing	Pressure boundary	Carbon steel	Indoor – not air conditioned	Loss of material	Systems and Structures Monitoring Program

RAI 2.3.3.15 - 2

The ventilation systems license renewal boundary drawings, which are identified below, show system filters for both Units 1 and 2; however, LRA Table 3.3-15 does not identify the media for these filters. It appears that these system filters are passive and may be long-lived. Identify whether the media for these system filters was excluded from the scope of license renewal on the basis that these media components are periodically replaced and, if so, identify the replacement interval.

If the filter media was excluded because it is routinely replaced on condition, describe the plant-specific monitoring program and the specific performance standards and criteria for replacement. If neither of those replacement conditions apply, justify why the filter media is considered to be outside the scope of license renewal or are not subject to an AMR.

- Unit 1, on license renewal boundary drawing 1-HVAC-01, Rev. 0, media for the miscellaneous ventilation filters at locations E7.

- Unit 1 on license renewal boundary drawing 1-HVAC-02, Rev. 0
  - locations A7, B7, and C7
  - Control room cooling system high-efficiency particulate air (HEPA) filter media and charcoal adsorber media for HVAC units HVE-13A and 13B at location B5
  - Media for emergency core cooling system area ventilation prefilter(s) at location E1, HEPA filters at locations D4and E4, and charcoal adsorbers at locations D5 and E5
  - Media for the electrical equipment room filters at location G4
  - Media for the four shield building ventilation system HEPA filters at locations D7 and F7, and two charcoal adsorbers at locations D7 and F7

- Unit 2 on license renewal boundary drawing 2-HVAC-02, Rev. 0
  - Control room cooling system filter media for HVAC units 2HVA/ACC-3A, 3B, and 3C at locations A5, B5, and C5
  - Control room cooling system prefilter media, HEPA filter media, and charcoal adsorber media for HVAC units 2HVE-13A and 13B at locations A4 and B4
  - Media for emergency core cooling systems area ventilation prefilters at location E1, HEPA filters at locations D5 and E5, and charcoal adsorbers at locations D5 and E5
  - Media for the electrical room filters at location G3
  - Media for the four shield building ventilation system HEPA filters at locations D4, D5, F4, and F5, and two charcoal adsorbers at locations D5 and F5

FPL Response

Filter media associated with the following are replaced periodically in accordance with plant procedures on intervals ranging from monthly to 13 weeks:

- Unit 1 hot shutdown panel (miscellaneous) filter shown on License Renewal Boundary Drawing 1-HVAC-01, location E-7;
- Unit 1 and Unit 2 control room air conditioning filters for HVAC units HVA-3A, 3B, 3C, and 2HVA/ACC-3A, 3B, and 3C;
- Unit 1 and Unit 2 RAB main supply and exhaust prefilters for HVS-4A and 4B (erroneously called emergency core cooling system area in RAI 2.3.3.15-2); and
- Unit 1 and Unit 2 electrical equipment room filters.

High efficiency particulate air (HEPA) and charcoal filter media associated with the following are tested and replaced in accordance with the St. Lucie Technical Specifications (TS), which define specific performance standards and criteria:

- Unit 1 Control Room Air Conditioning for HVE-13A and 13B - TS surveillance 4.7.7.1
- Unit 2 Control Room Air Conditioning for 2HVE-13A and 13B - TS surveillance 4.7.7
- Unit 1 ECCS Area Ventilation - TS surveillance 4.7.8.1
- Unit 2 ECCS Area Ventilation - TS surveillance 4.7.8
- Unit 1 and Unit 2 Shield Building Ventilation - TS surveillance 4.6.6.1.

RAI 2.3.3.15 - 3

Table 3.3-15 of the LRA does not list certain components, which are listed below, although the components are shown on the license renewal boundary drawings (cited below) as being within the scope of license renewal. Justify why these components are excluded from Table 3.3-15.

[Numbers/letters in brackets added by FPL to provide correlation between NRC RAI and FPL Response.]

[1] Unit 1 on license renewal boundary drawing 1-HVAC-01, Rev. 0 a screen for the hot shutdown panel ventilation outside air inlet at location E7

[2] Unit 1 on license renewal boundary drawing 1-HVAC-02, Rev. 0

- [2a] Direct expansion cooling coils and coil housings for indoor HVAC units HVA-3A, 3B, and 3C, at locations A7, B7, and C7
- [2b] Technical support center exhaust damper EHC-1 at location D7 and EHC-2 at location D8
- [2c] Shield building ventilation system electrical heating coils and housings EHC-HVE-6BZ and EHC-HVE-6AI at location D6, and EHC-HVE-6AZ and EHC-HVE-6BI at location F6
- [2d] Shield building ventilation system demister housings at locations D6 and F6
- [2e] Emergency core cooling system ventilation exhaust system components and housings downstream of the exhaust fans HVE-9A and HVE-9B at locations D-5 and E-5

[3] Unit 2 on license renewal boundary drawing 2-HVAC-02, Rev. 0 direct expansion cooling coils and coil housings for HVAC units 2HVA/ACC-3A, 3B, and 3C at locations A5, B5, and C5

[4] Unit 2 on license renewal boundary drawing 2-HVAC-03, Rev. 0

- [4a] Shield building ventilation system electrical heating coils and housings EHC-2HVE-6AI at location D3, EHC-2HVE-6BZ at location D4, EHC-2HVE-6BI at location F4, and EHC-2HVE-6AZ at location F3
- [4b] Shield building ventilation system demister housings at locations D3 and F3

[5] Unit 2 – not shown on a license renewal boundary drawing, screened openings and associated intake structure ductwork (as identified in Section 9.4.6.2 of the Unit 2 UFSAR)

FPL RESPONSE:

Unless otherwise identified, miscellaneous housings are generally included in the component grouping type "filter housing" as listed in LRA Table 3.3-15.

[1] – License Renewal Boundary Drawing 1-HVAC-01:

Response [1]

The intake screen is actually mounted in a concrete plenum on the south side of the Unit 1 Reactor Auxiliary Building, at plant elevation 26' 10". The actual air intake for the fan is near the top of the plenum, at elevation 53' 8". Due to this large elevation difference, failure of the intake screen would have no impact on the operation of the system. Additionally, neither the

hot shutdown panel nor any of the hot shutdown panel ventilation components are safety-related. This screen does not perform or support any license renewal system intended functions that satisfy the scoping criteria of 10 CFR 54.4(a), and thus is not within the scope of license renewal.

[2] – License Renewal Boundary Drawing 1-HVAC-02

Response [2a]

Direct expansion cooling coils are associated with the refrigeration process. FPL's screening methodology treats components that perform the refrigeration process as active components. Therefore, they are not subject to an aging management review. This position is consistent with that accepted by the NRC as part of the Turkey Point Units 3 and 4 LRA review. (See FPL response to RAI 2.3.3.15-7 for further discussion.) Coil housings for HVA-3A, HVA-3B, and HVA-3C are part of the air-handling unit and are included in component grouping "Filter housings" as listed in LRA Table 3.3-15 (pages 3.3-76 and 3.3-77).

Response [2b]

Technical support center components EHC-1 and EHC-2 are not dampers as stated above. These components are heaters mounted in the ducts. Heating coils are electrical components and are evaluated in LRA Section 2.5 (page 2.5-1). Housings are included in LRA Table 3.3-15 (page 3.3-82) in component grouping "Ducts."

Response [2c]

Shield building ventilation heating coils are electrical components and are evaluated in LRA Section 2.5 (page 2.5-1). Coil housings are listed in LRA Table 3.3-15 (pages 3.3-87 and 3.3-88) in component grouping "Filter housings."

Response [2d]

Shield building ventilation demister housings are listed in LRA Table 3.3-15 (pages 3.3-87 and 3.3-88) in component grouping "Filter housings."

Response [2e]

ECCS area ventilation louvers L-7A and 7B are discussed in the response to RAI 2.3.3.15-1. Other components are considered part of the duct and are listed in Table 3.3-15 (pages 3.3-79 and 3.3-80) in component grouping "Ducts."

[3] – License Renewal Boundary Drawing 2-HVAC-02

Response [3]

Direct expansion cooling coils are associated with the refrigeration process. FPL's screening methodology treats components that perform the refrigeration process as active components. Therefore, they are not subject to an aging management review. This position is consistent with that accepted by the NRC as part of the Turkey Point Units 3 and 4 LRA review. (See FPL response to 2.3.3.15-7 for further discussion.) Coil housings for 2HVA/ACC-3A, 2HVA/ACC-3B, and 2HVA/ACC-3C are part of the air-handling unit and are listed in LRA Table 3.3-15 (pages 3.3-76 and 3.3-77) in component grouping "Filter housings."

[4] – License Renewal Boundary Drawing 2-HVAC-03

Response [4a]

Shield building ventilation heating coils are electrical components and are evaluated in the electrical screening document. Coil housings are listed in LRA Table 3.3-15 (page 3.3-87) in component grouping "Filter housings."

Response [4b]

Shield building ventilation demister housings are listed in LRA Table 3.3-15 (pages 3.3-87 and 3.3-88) in component grouping "Filter housings."

[5] – Unit 2 Intake Structure Ventilation

Response [5]

Screens associated with these exhaust dampers are provided for personnel safety and have no impact on fan operation. The only ductwork is on the discharge side of the exhaust fans and is located outside the pump room on the roof of the intake structure. These components do not perform or support any license renewal system intended functions that satisfy the scoping criteria of 10 CFR 54.4(a).

RAI 2.3.3.15 - 4

Many of the symbols used for HVAC system components in license renewal boundary drawings 1-HVAC-01, 2-HVAC-01, 1-HVAC-02, 2-HVAC-02, and 2-HVAC- 03 are not defined on the "General Notes and Legend" Drawings 1-NOTES-01 and 2-NOTES-01. Clarify the notes and legend drawing(s) that define ECCS ventilation exhaust system components and housings downstream of the exhaust fans HVE-9A and HVE-9B at locations D-5 and E-5 on drawing 1-HVAC-02.

FPL Response

Components downstream of the exhaust fans HVE-9A and HVE-9B at locations D-5 and E-5 on License Renewal Boundary Drawing 1-HVAC-02 are flow monitors and isokinetic sampling devices. These components do not perform or support any license renewal system intended functions that satisfy the scoping criteria of 10 CFR 54.4(a).

RAI 2.3.3.15 - 5

In order to comply with the requirements of General Design Criterion (GDC) 19, as specified in Appendix A to 10 CFR Part 50, a control room shall be provided from which actions can be taken to operate the nuclear power unit safely under normal conditions and to maintain it in a safe condition under accident conditions including loss-of-coolant accidents. Typically, a main control room envelope (MCRE) is established to maintain habitable environment within which main control room operators can take actions to operate the nuclear power unit safely.

Describe the areas that constitute the MCRE for St. Lucie Units 1 and 2. Verify that all control room ventilation system components inside and/or outside the MCRE that are relied on to perform safety-related functions, are identified as being within the scope of license renewal and subject to an AMR. These system components should include, but not be limited to, the housings of air filtration unit components including demisters; heaters; prefilters; HEPA filters and adsorbers; housings of air handling units and fan coil units; housings of fire dampers and control dampers; housings of air intakes and louvers; and housings of exhaust fans and associated supply, return, and exhaust ductwork. Justify why any of these components are considered to be outside the scope of license renewal or are not subject to an AMR.

FPL Response

The Unit 1 control room envelope includes the control room, technical support center, computer room, kitchen, and toilets. The Unit 2 control room envelope includes the control room, packaged air conditioning equipment room, emergency cleanup system equipment room, emergency food and water storage areas, toilet, kitchen/dining/conference room, and supervisors' offices. All Unit 1 Control Room Air Conditioning components are safety-related and are in the scope of license renewal. All Unit 2 Control Room Air Conditioning components are safety-related (with the exception of the toilet and kitchen exhaust fans, HVE-14 and HVE-33, which are isolated under emergency conditions) and are in the scope of license renewal. An aging management review was performed on Unit 1 and Unit 2 components that perform license renewal intended functions and are passive and long-lived. The results of these reviews are provided on LRA Table 3.3-15, pages 3.3-75 through 3.3-78, as amended by the response to RAIs 2.3.3.15-1, 2.3.3.15-2, and 2.3.3.15-3 above.

RAI 2.3.3.15 - 6

In Section 2.3.3.15 of the LRA, the applicant states that the miscellaneous ventilation system provides ventilation for the Unit 1 computer room and the Unit 1 hot shutdown panel room. However, the license renewal boundary drawings do not show a separate ventilation system for the computer room. For example, drawing 1-HVAC-02 (at locations C8 and D8) shows a ventilation supply line to the Unit 1 computer room from the Unit 1 control room ventilation system. Clarify why computer room ventilation is considered to be a separate subsystem under miscellaneous ventilation.

FPL Response

Computer room ventilation (shown on License Renewal Boundary Drawing 1-HVAC-02 at locations C8 & D8) includes air-handling units HVA-10A and HVA-10B and associated ductwork. Control Room Air Conditioning only provides the supply air to computer room ventilation. Computer room ventilation is treated as a separate subsystem because its only intended function is to provide cooling for the computer room. Note that computer room ventilation is entirely within the control room envelope.

RAI 2.3.3.15 - 7

License renewal boundary drawing 1-HVAC-02, Rev. 0, does not identify the components and/or housings, which are listed below, as being within the scope of license renewal, although these components and/or housings support the intended function of the control room ventilation system to comply with the requirements of GDC 19, as specified in Appendix A to 10 CFR Part 50. Justify why the following components and housings are considered to be outside the scope of license renewal and not subject to an AMR:

- Piping, valves, and flexible connections that comprise the refrigerant lines to and from the outdoor air conditioning compressor unit ACC-3A at location A7 to the indoor air conditioner unit HVAC-3A at location A7
- Piping, valves, and flexible connections that comprise the refrigerant lines to and from the outdoor air conditioning compressor unit ACC-3B at location B7 to the indoor air conditioner unit HVAC-3B at location B7
- Piping, valves, and flexible connections that comprise the refrigerant lines to and from the outdoor air conditioning compressor unit ACC-3C at location C7 to the indoor air conditioner unit HVAC-3C at location C7

FPL Response

As stated in the response to RAI 2.3.3.15-3 (Response [2a]) above, components associated with the refrigeration process are considered active. The rationale for this position is as follows.

> Direct expansion refrigeration cooling units (packaged or split) typically consists of refrigerant compressors, condensers, evaporators, expansion valves, economizers and copper tubing, compressor motors (often hermetically sealed in the refrigerant circuits), condenser fan motors, and controls. The operation of the units are linked together via the refrigerant circuits and operating and safety controls. Deteriorating conditions of any of the components will cause the units to either trip or to noticeably sub-perform. Thus, any detrimental effect of aging mechanisms on the refrigerant circuit components is translated to a detrimental change in the monitored operational performance of the units. Typically, condensing units are replaced as an integral unit in lieu of individual component repairs. Additionally, the operability of these units is addressed in the St. Lucie Technical Specifications. Therefore, all refrigerant components are designated as "active."

This position is consistent with that accepted by the NRC as part of the Turkey Point Units 3 and 4 LRA review.

RAI 2.3.3.15 - 8

In Section 2.3.3.15 of the LRA, the applicant does not provide a system description for the Unit 1 fuel handling building ventilation system and does not include the associated structures and components in either Table 2.3-3 or Table 3.3-15 of the LRA. Justify why the Unit 1 fuel handling building ventilation system structures and components are considered to be outside the scope of license renewal or are not subject to an AMR.

FPL Response

Per Unit 1 UFSAR Sections 9.4.6 and 15.4.1, the system is not relied on nor credited in the safety analyses for fuel handling accidents. Accordingly, Unit 1 Fuel Handling Building Ventilation does not perform or support any license renewal system intended functions that satisfy the scoping criteria of 10 CFR 54.4(a), and therefore, is not within the scope of license renewal.

RAI 2.3.3.15 - 9

In Section 2.3.3.15 of the LRA, the applicant does not identify the ventilation system that supports and cools the Unit 2 hot shutdown panel and computer room. Identify system and clarify whether it is within the scope of license renewal and subject to an AMR.

If applicable, provide drawing(s) showing the ventilation structures and components for the Unit 2 hot shutdown panel and computer room. Justify why these structures and components are considered to be outside the scope of license renewal or are not subject to an AMR.

FPL Response

Unit 2 Reactor Auxiliary Building Electrical Equipment and Battery Room Ventilation is designed as the primary intake and exhaust for air in the electrical and battery rooms. The areas served by this system are the electrical equipment areas 2A, 2B, and 2C, communication area, static inverter room, hot shutdown panel room, computer room, and battery rooms 2A and 2B. This system is in the scope of license renewal and listed in LRA Table 3.3-15 (pages 3.3-83 and 3.3-84).

This system is shown on License Renewal Boundary Drawing 2-HVAC-02.

2.3.4 Steam And Power Conversion

2.3.4.1 Main Steam, Auxiliary Steam and Turbine

RAI 2.3.4 - 1

In Table 3.4-1 of the LRA, the applicant does not list certain components of the main steam, auxiliary steam, and turbine system, although license renewal boundary drawings identify them as being within the scope of license renewal. In particular, it appears that flexible connections SZ-08-1A1, SZ-08-1A2, SZ-08-1B1, and SZ-08-1B2, which are shown on drawing 1-MS-04 at locations D3 and H3, are passive and long-lived and, as such, should be subject to an AMR. Justify why the flexible connections are considered to be outside the scope of license renewal or are not subject to an AMR.

FPL Response

The flexible hoses noted in RAI 2.3.4-1 are included as part of Instrument Air and are listed in LRA Table 3.3-8 (pages 3.3-54 and 3.3-56).

RAI 2.3.4 - 2

The boundary of the portion of the main steam system that is within the scope of license renewal ends at valves that appear to be normally open (see drawing 1-MS-02 at locations B1, B2, F4, F5, F6, and F7; drawing 1-MS-03 at location H5; and drawing 2-MS-02 at locations B1, B2, F4, F5, F6, and F7). Failure of the downstream piping may affect the pressure boundary intended function. In Section 2.3.4.1 of the LRA, the applicant states that this approach is acceptable because the open main steam boundary valves are only required to mitigate potential spurious valve operation in the unlikely event of certain fires, and these open boundary valves are procedurally closed for these fire scenarios.

Provide additional information to support the basis for this determination. For example, discuss the steps in the fire procedures for closing the valves, the amount of time required to complete these steps, and the availability of sufficient water inventory if the valves are not closed.

FPL Response

The St. Lucie Units 1 and 2 Safe Shutdown Analyses dictate, and plant procedures provide for, manual main steam line isolation in the event that a main steam isolation valve fails to automatically close during certain postulated fire events. With respect to the Safe Shutdown Analyses and plant procedures that specifically address manual main steam isolation for these fire scenarios, this approach has been accepted as part of the CLBs for St. Lucie Units 1 and 2. Therefore, the license renewal boundaries depicted on License Renewal Boundary Drawings 1-MS-02 and 2-MS-02 are appropriate. Note that this position with regard to license renewal boundaries (manual main steam isolation) is consistent with that accepted by the NRC as part of the Turkey Point Units 3 and 4 LRA review.

2.3.4.2 Main Feedwater and Steam Generator Blowdown

RAI 2.3.4 - 3

In Table 3.4-2 of the LRA, the applicant includes the main feedwater isolation valve accumulators (hydraulic and pneumatic end only) for Unit 2, but does not include similar components for Unit 1. On drawing 1-FW-02, the applicant indicates that the accumulators for Unit 1 are within the scope of license renewal. Explain why the Unit 1 accumulators did not receive an AMR.

FPL Response

The St. Lucie Unit 1 main feedwater isolation valve accumulators shown on License Renewal Boundary Drawing 1-FW-02 are included as part of Instrument Air, and listed in LRA Table 3.3-8 (pages 3.3-54 and 3.3-57) as Accumulators.

RAI 2.3.4 - 4

On license renewal boundary drawings 1-AFW-01 and 2-AFW-0, the applicant indicates that piping from the condensate storage tank (at location D7) connects below the normal water level. The applicant does not indicate that this piping is within the scope of license renewal. This piping appears to connect the lower portion of the condensate storage tank with the condenser hotwell. Failure of this piping may compromise the pressure boundary intended function of the condensate storage tank. Justify why this piping is considered to be outside the scope of license renewal or are not subject to an AMR.

FPL Response

License Renewal Boundary Drawings 1-AFW-01 and 2-AFW-01 cannot be used to ascertain tank connection elevations for piping. The Technical Specifications require a minimum water level in the Unit 1 condensate storage tank (CST) of 116,000 gallons and a minimum level of 307,000 gallons in the Unit 2 CST. All non safety-related lines connected to these tanks utilize penetrations located above the required Technical Specifications minimum required water levels such that assumed failures of these lines will not compromise the pressure boundary intended function of the CSTs. Therefore, these non safety-related lines do not perform or support any license renewal system intended functions that satisfy the scoping criteria of 10 CFR 54.4(a), and thus are not within the scope of license renewal.

2.4 SCOPING AND SCREENING RESULTS – STRUCTURES

2.4.1 Containments

RAI 2.4.1 - 1

A manway is shown on the top of the steel containment structure at location B5 on general arrangement drawings 8770-G-067 (Unit 1 UFSAR, Figure 1.2-10) and 2998-G-067 (Unit 2 UFSAR, Figure 1.2-10). However, this manway and associated closure bolting and gaskets are not listed in LRA Table 3.5-2. These components appear to form a portion of the containment pressure boundary. Justify why these components are not within the scope of license renewal and subject to an aging management review.

FPL Response

The manways noted in the RAI are permanently welded to the containment vessels, similar to the construction hatches. Consequently, the manways are considered part of the containment vessels listed in LRA Table 3.5-2 (page 3.5-35) and are not listed separately. Thus, the manways are included in the scope of license renewal and are evaluated in the AMR performed for the containment vessels.

RAI 2.4.1 - 2

In LRA Table 3.5-2, the applicant states that the containment vessel moisture barrier component/ commodity group as being made of elastomer (see page 3.5-44). The intended function of this component/commodity group is described as "Provide shelter/protection to safety-related components (including radiation shielding)." Containment vessel moisture barriers and elastomers are also discussed in Sections 3.5.1.4 and 3.5.1.4.1 of the LRA, respectively.

However, a material identified as Ethafoam is shown between the containment vessel and concrete in general arrangement drawings 8770-G-067 (Unit 1 UFSAR, Figure 1.2-10) and 2998-G-067 (Unit 2 UFSAR, Figure 1.2-10) at locations K1, K10, and I15 on both drawings. Ethafoam is a trademark of the Dow Chemical Company for a polyethylene foam product. Explain why Ethafoam components are not within the scope of license renewal and subject to an aging management review.

FPL Response

The subject Ethafoam material is associated with the containment vessel moisture barriers noted in LRA Subsection 3.5.1.4 (page 3.5-14). The moisture barrier detail calls for Ethafoam (4" thick & 4' deep) covered by a 1" joint sealer (elastomer) between each steel containment vessel and the concrete floor at EL 23.00'. The purpose of the Ethafoam is to occupy the void space between the concrete and the steel vessel during construction. The purpose of the joint sealer is to prevent moisture intrusion between the concrete and the steel vessel. Therefore, the elastomer joint sealer is included in LRA Table 3.5-2 (page 3.5-44) as "Containment vessel moisture barriers" because it performs the intended function of excluding moisture. The Ethafoam is not included in LRA Table 3.5-2 because it does not perform or support any license renewal system intended functions that satisfy the scoping criteria of 10 CFR 54.4(a).

RAI 2.4.1 - 3

In Section 2.4.1.1.4 of the LRA, the applicant states that two equipment hatches are provided for each containment vessel, a construction hatch and a maintenance hatch. Later in this section it states that two personnel airlocks are provided for each containment vessel. LRA Section 3.5.1.1 (on page 3.5-2) and Table 3.5-2 (on page 3.5-37) list maintenance, personnel and escape hatches. Outside doors for maintenance hatches are also mentioned. However, construction hatches are not explicitly mentioned.

The escape hatches are listed as being in the scope of licensing renewal and subject to an aging management review in Section 3.5.1.1 and Table 3-5-2 of the LRA. Explain why the hatches are not identified in either Section 2.4.1.1.4 or elsewhere in Section 2 of the LRA.

The construction hatch is listed as being in the scope of licensing renewal and subject to an aging management review in Section 2.4.1.1.4 of the LRA. Explain why the hatch is not identified in Section 3.5.1.1 and Table 3.5-2 of the LRA.

FPL Response

As discussed in LRA Subsection 2.4.1.1.4 (page 2.4-3), each containment vessel has two equipment hatches and two personnel airlocks.

The two equipment hatches for each containment are the construction hatch and the maintenance hatch. The construction hatches are permanently welded shut and therefore considered part of the containment vessels listed in LRA Table 3.5-2 (page 3.5-35). The maintenance hatches are gasketed hatches that are routinely opened during refueling outages and therefore are listed separately in LRA Table 3.5-2 (page 3.5-37).

The two personnel airlocks for each containment discussed in LRA Subsection 2.4.1.1.4 (page 2.4-3) are listed as the personnel hatch and the escape hatch in LRA Table 3.5-2 (page 3.5-37).

Thus, all Containment hatches and airlocks are included in the scope of license renewal with AMRs performed accordingly.

RAI 2.4.1 - 4

In Section 2.4.1.2 of the LRA, the applicant states that "the steel Containment Vessel is supported on fill concrete that transfers the loads by bearing to the base slab." The description of the reinforced concrete below groundwater component/commodity group (exterior walls and foundation) provided in Table 3.5-2 (on page 3.5-43) would apply to the base slab. However, it is not clear if this description also applies to fill concrete above the base slab. The fill concrete provides structural support to the containment vessel and, as such, should be within the scope of license renewal and subject to an aging management review. Please indicate whether the fill concrete is within the scope of license renewal and subject to an aging management review, or justify its exclusion.

FPL Response

The "fill concrete" between the containment vessels and the base slabs is included in LRA Table 3.5-2 (page 3.5-43) as "Reinforced concrete below groundwater." As such, the fill concrete is in the scope of license renewal and is subject to an aging management review.

RAI 2.4.1 - 5

In Section 2.4.1.3 of the LRA, the applicant states that the interior structures of each containment vessel and reactor containment shield building consist of concrete and steel components. However, thermal insulation is present on major reactor, pipe, and valve components; pipe and equipment component supports; and structural enclosures and panels used to shelter instruments and electrical equipment. No insulation material is shown as being within the scope of license renewal in Table 3.5-2 of the LRA. The temperature control intended function provided by insulating materials is important for environmental qualification, as piping and components with degraded insulation will experience additional heat loads and condensation. Justify why insulation is not included in the scope of license renewal and subject to an aging management review.

FPL Response

Environmental temperature qualification of in-Containment components is maintained through temperature monitoring and the St. Lucie Units 1 and 2 Technical Specifications (see LRA Section 4.4, page 4.4-3). Insulation is not credited for environmental qualification and provides a negligible heat transfer effect with regard to Containment heat loads following design basis accidents. Additionally, no insulation is credited in the environmental qualification of individual components (insulated boxes, etc.) at St. Lucie.

As stated in Unit 1 UFSAR Section 3.8.3.6.1 and Unit 2 UFSAR Section 6.3.2.2.2a, protective coatings (including insulation) inside the Containment have been evaluated for failure during design bases accidents and determined that they will not cause clogging of the Containment sumps.

Therefore, thermal insulation is not within the scope of license renewal because it does not perform or support any license renewal intended functions that satisfy the scoping criteria of 10 CFR 54.4(a).

RAI 2.4.1 - 6

In Section 2.3.3.15 of the LRA, the applicant states that the vent stacks are components of the shield building ventilation systems. These components are not considered as being within the scope of license renewal and subject to an aging management review, for the reasons stated below:

on page 2.3-26 of the LRA:

> "... considering St. Lucie Units 1 and 2 accident analyses assume ground level releases, the plant vent stacks do not perform or support any license renewal system intended functions that satisfy the scoping criteria of 10 CFR 54.4 and therefore are not within the scope of license renewal."

on page 2.1-4 of the LRA:

> "The offsite dose analyses indicate that the radiological consequences of these design basis events, except for the Unit 2 fuel handling accident, represent a small fraction of the 10 CFR Part 100 limits. As a result, SSCs related to the prevention and/or mitigation of these design basis events do not meet the scoping criteria of 10 CFR 54.4(a)(1)(iii). This equipment will still be evaluated relative to the scoping criteria of 10 CFR 54.4(a)(2) and 10 CFR 54.4(a)(3)."

However, the vent stacks are not addressed as structures in the Section 2.4 of the LRA. The vent stacks for both units are shown on the enlarged site plot plan drawing 2998-G-059 (Figure 1.2-2 of both the Unit 1 and Unit 2 UFSARs) at location G7 for Unit 1 and location G10 for Unit 2. The vent stack for Unit 1 is also shown in drawing 8770-G-067 at locations C11 through H11. It appears that approximately 140 feet of this component/structure, with an outer diameter of 6 feet, runs parallel to and is supported by the shield building structure, and sits on top of the penetration area of the reactor auxiliary building.

The vent stacks should be within the scope of license renewal and subject to an aging management review for three reasons:

(1) The vent stacks are substantial structures in close proximity to the shield buildings and directly on top of portions of the reactor auxiliary buildings. The shield and reactor auxiliary buildings are within the scope of license renewal and have safety-related intended functions. Structural failure of the vent stack could result in these buildings being unable to perform their safety-related intended function.

(2) The vent stacks contain and support radiation monitors that are relied upon to function in the event of a waste gas accident. The high-radiation alarms from these monitors are a signal to manually close the control room ventilation intake dampers. (For example, see Amendment 18 in Section 15.4.2-2, of the Unit 1 UFSAR, dated April 2001.)

(3) Blockage of effluent flow from the vent stack as a result of a structural failure could prevent the shield building ventilation system (SBVS) from performing its in-scope intended function.

Non safety-related structures and components of which a failure could prevent satisfactory accomplishment of any of the functions identified in 10 CFR 54.4(a)(1) should be included within the scope of the License Renewal Rule. The failure of the vent stack could potentially damage safety-related SSCs that have a spatial relationship with the vent stack, or could prevent the satisfactory function of the safety-related radiation monitors and the SBVS. Justify why the

plant's vent stack structures are not within the scope of license renewal and subject to an aging management review.

FPL Response

FPL did not include the St. Lucie Units 1 and 2 vent stacks in the scope of license renewal because they do not perform or support any license renewal system intended functions that satisfy the scoping criteria of 10 CFR 54.4(a). However, the NRC has requested that FPL justify why the vent stacks are not in the scope of license renewal based on three specific reasons identified in RAI 2.4.6-1. FPL responses to these reasons are provided below.

(1) Structural failure of the vent stacks would not result in the failure of the Units 1 and 2 Containments and Reactor Auxiliary Buildings to perform their safety-related intended functions. If the vent stacks were assumed to fall, they could potentially impact the walls of the Containments, or the walls and/or roofs of the Reactor Auxiliary Buildings. These structures are constructed of cast in place, reinforced concrete with thickness ranging from 2 to 4 feet, and they are designed to resist high energy missiles without spalling (see Section 3.5 in the Unit 1 and Unit 2 UFSARs). These high energy missiles bound the impact of a falling vent stack.

(2) Although the vent stack radiation monitors are mentioned in Section 15.4.2.2 of the Unit 1 UFSAR, these monitors do not perform or support any system intended functions that satisfy the scoping criteria of 10 CFR 54.4(a). As stated in this UFSAR section, "Releases from the waste gas tank are exhausted by the auxiliary building main ventilation system through the plant vent. This exhaust is assumed to be released at ground level and to leak back into the auxiliary building." This UFSAR section also states, "It is conservatively assumed that the control room immediately receives in-leakage from the reactor auxiliary building." Finally, this section states, "The waste gas accident would result in a high radiation alarm from either local monitors or the stack vent." The local monitors mentioned in this statement are the ones located in Control Room Air Conditioning. As identified in Section 9.4.1 of the Unit 1 UFSAR, and Section 12.3.4.2.3.2 of the Unit 2 UFSAR, safety-related isolation of Control Room Air Conditioning is provided by redundant radiation monitors located in each of the Control Room Air Conditioning air intakes. As identified in Subsection 2.3.3.15 (page 2.3-25) of the LRA, the St. Lucie Units 1 and 2 Control Room Air Conditioning subsystems (and associated radiation monitors) are included in the scope of license renewal.

(3) As a conservative measure, FPL has included the supports for the vent stacks in the scope of license renewal as identified in Table 3.5-2 (page 3.5-42) of the LRA. This will ensure there are no credible structural failure modes of the vent stack (based on industry and plant specific operating experience) which would result in blockage of effluent flow.

Based on the above, the St. Lucie Units 1 and 2 vent stacks are not in the scope of license renewal.

2.4.2 Other Structures

RAI 2.4.2 - 1

In Section 2.4.2.6 of the LRA, the applicant discusses the need for fire barriers to retard the spread of fire and states that fire-resistant panels (e.g., Thermo-lag, sheet metal/ceramic fiber) mounted on steel framing are used as fire barriers. Section 2.4.2.6 further references Table 3.5-8 of the LRA and Appendix 9.5A of the Unit 1 and 2 UFSARs, which state that barriers (e.g., wall, floors, ceiling) divide the plant into fire areas. In Table 3.5-8 of the LRA, the licensee notes that concrete and steel structural components that serve as fire barriers are addressed with each structure.

Although reference is made to structural steel for each structure discussed in the civil/structural sections of the LRA, no reference is made to the fire-resistive coverings on any structural steel in those structures. For each structure within the scope of license renewal, verify whether any structural steel fire barrier has been provided with fire-resistive coverings. If any barriers are identified, justify why structural steel fire barriers provided with fire-resistive coverings are considered outside the scope of license renewal or are not subject to an AMR.

FPL Response

Safety-related structures for St. Lucie Units 1 and 2 (e.g., Reactor Auxiliary Buildings, Fuel Handling Buildings, Emergency Diesel Generator Buildings, Component Cooling Water Areas, Diesel Oil Equipment Enclosures, etc) are cast in place, reinforced concrete structures. The only steel framed structure is the non safety-related Turbine Building, which does not include fire resistive coverings.

Structural steel is utilized in the construction of certain fire barriers. Note 1 on LRA Table 3.5-8 (page 3.5-60) refers to the "Structural steel framing" listed in LRA Table 3.5-2 (page 3.5-35) and LRA Table 3.5-12 (page 3.5-74). This steel framing provides the structural framework for the "Miscellaneous barriers" listed in LRA Table 3.5-8 (page 3.5-60). Therefore, all structural steel fire barriers are included in the scope of license renewal and included in LRA Table 3.5-8.

RAI 2.4.2 - 2

In Section 2.4.2.6 of the LRA, the applicant discusses fire barriers that provide compartmentalization and containment. Page 9.5A-136A of the Unit 2 [sic: 1] UFSAR indicates that guard pipes are used in the hydrogen system; however, the NRC staff is unable to identify this feature in any of the tables in the LRA. Justify why the guard pipe in the hydrogen system is considered to be outside the scope of license renewal or are not subject to an AMR.

FPL Response

The guard pipe is not in the scope of license renewal because it is not relied on in safety analyses and/or plant evaluations that demonstrate compliance with 10 CFR 50.48 (fire protection). Section 3.15.1, page 9.5A-136A of the Unit 1 UFSAR describes the features credited for fire protection, namely, "Hydrogen lines in safety-related areas are designed to prevent a fire from defeating the safety-related function of safety-related systems. An excess flow isolation valve is installed in the hydrogen supply line to the Reactor Auxiliary Building (RAB). The hydrogen flow to the boronometer and volume control tank (VCT) rooms is also limited by a restricting orifice downstream of the VCT hydrogen regulator. One short section of hydrogen piping in the blowdown tank hallway has been seismically analyzed."

The excess flow isolation valve is in the scope of license renewal. An AMR is not required, however, because the valve is located outside the RAB, and as a result, is not required to perform a pressure boundary function. The restricting orifice downstream of the VCT hydrogen regulator and the short section of hydrogen piping in the blowdown tank hallway are in the scope of license renewal and require an AMR as indicated in LRA Table 3.3-16 (Pages 3.3-89 and 3.3-91).

RAI 2.4.2 - 3

In Section 9.1 of the Unit 1 and 2 UFSARs, the applicant states that the fuel storage racks are designed to maintain subcritical conditions in the fuel pool. However, Section 2.4.2.7 of the LRA does not list maintaining subcritical conditions as one of the attributes of the fuel handling building. In addition, none of the components or commodity groups listed in Table 3.5-9 of the LRA is credited with the intended function of maintaining subcritical conditions. Justify why maintaining subcritical conditions is not identified as an intended function.

FPL Response

Structural components of the Fuel Handling Buildings that ensure spent fuel remains subcritical (i.e., spent fuel racks and boraflex) are identified in LRA Table 3.5-9 (page 3.5-68) as performing intended function 3, "Provide shelter/protection to safety-related components (including radiation shielding)." Intended function 3 of LRA Table 3.5-1 (page 3.5-34) is supplemented to include maintaining subcritical conditions.

RAI 2.4.2 - 4

The fuel handling building vent stacks are shown on General Arrangement Drawing 8770-G-074 at location G8. The vent stack for Unit 1 is also shown in General Arrangement Drawing 8770-G-073 at location B8. It appears that approximately 35 feet of this component or structure, which has an outer diameter of approximately 4.5 feet, runs parallel to and is supported by the new fuel storage transfer area south wall. On the basis of the limited information provided in the drawings, it appears that the vent stack sits on top of a 12-foot tall structure. On the basis of the description on page 9.4-8 of the Unit 2 UFSAR, this structure appears to be the exhaust plenum housing for a prefilter, a HEPA filter, and an exhaust fan. The vent stack and its base structure sit on top of the fuel handling building's HVAC room. The edge of the stack is approximately 4 feet from the east wall of the noble gas monitor enclosures.

The vent stack is a substantial structure in close proximity to the noble gas monitor enclosures and new fuel storage area walls, and directly on top of the HVAC room. The fuel handling buildings and noble gas monitor enclosures are within the scope of license renewal and have safety-related intended functions. Structural failure of the vent stack could cause these buildings to be unable to perform their safety-related intended functions.

On page 9.4-10 of the Unit 2 UFSAR, the applicant states that "...the Fuel Handling Building...air exhaust is vented through a stack, which minimizes the probability of the entrance of external missiles." 10 CFR 54.4(a)(2) states, in part, that all non-safety-related systems, structures, and components of which failure could prevent satisfactory accomplishment of any of the functions identified in 10 CFR 54.4(a)(1) should be included within the scope of license renewal.

It appears that the failure of the vent stack could potentially damage safety-related structures and components, which have a spatial relationship with the vent stack, and could allow external missiles to enter the fuel handling building. Justify why the fuel handing building stack structures are considered to be outside the scope of license renewal or are not subject to an AMR.

FPL Response

The non safety-related Fuel Handling Building (FHB) vent stacks do not perform or support any license renewal intended functions that satisfy the scoping criteria of 10 CFR 54.4(a), and therefore are not in the scope of license renewal.

As discussed in LRA Section 2.3.3.15 (page 2.3-25), only Unit 2 FHB Ventilation is in the scope of license renewal. As stated in this section, during emergency operation, FHB Ventilation is directed to Shield Building Ventilation, and the FHB vent stack is not utilized. Thus, the FHB vent stack is outside the license renewal boundary as reflected on license renewal boundary drawing 2-HVAC-03.

Regarding the 10 CFR 54.4(a)(2) criterion, the FHB vent stacks cannot damage safety-related structures and components if they are assumed to fall. Specifically, the noble gas monitor enclosures are non safety-related, and the FHB walls and roofs are cast in place, reinforced concrete structures with thicknesses ranging from 2 to 2.33 feet, that are designed to resist high energy missiles without spalling (see Section 3.5 in the Unit 1 and Unit 2 UFSARs). These high energy missiles bound the impact of a falling FHB vent stack. Therefore, assumed failures of the FHB vent stacks could not cause a loss of intended function of safety-related components and structures.

RAI 2.4.2 - 5

In Section 9.6.2 of the Unit 1 UFSAR, the applicant lists a fuel pool bulkhead monorail as an overhead load handling system. Clarify if this monorail is included in LRA Table 3.5-9 on page 3.5-67 as a component of the "trolley hoists and cranes" component group. If the fuel pool bulkhead monorail is not considered to be within the scope of license renewal and subject to an AMR, justify its exclusion.

FPL Response

The Unit 1 fuel pool bulkhead monorail is within the scope of license renewal and subject to an AMR. The monorail is included in LRA Table 3.5-9 (page 3.5-67) as "Trolley hoists and cranes."

RAI 2.4.2 - 6

In Section 2.4.2.8 of the LRA, the applicant references Table 3.5-9, which indicates that only the fuel handling tools for Unit 2 are within the scope of license renewal and subject to an AMR. In Section 9.1 of the Unit 1 and 2 UFSARs, the applicant states that one of the design criteria for the new fuel and spent fuel pools is to maintain subcritical conditions. However, in Section 9.1.2.2 of the Unit 1 [sic: 2] UFSAR, the applicant indicates that criticality is prevented, in part, by correct functioning of the fuel handling tools, including the poisoned "L" inserts and cell blocking devices. Justify why these fuel handling tools are considered to be outside the scope of license renewal.

FPL Response

The poisoned 'L' inserts and cell blocking devices discussed in Section 9.1.2.2 of the Unit 2 UFSAR are stainless steel devices inserted into the spent fuel storage racks. For license renewal, these items are treated as part of the spent fuel storage racks and thus within the scope of license renewal and subject to an AMR. Therefore, these items are included in LRA Table 3.5-9 (page 3.5-68).

2.5 SCOPING AND SCREENING RESULTS – ELECTRICAL AND INSTRUMENTATION AND CONTROL SYSTEMS

RAI 2.5 - 1

Assuming the unavailability of offsite systems (e.g., offsite system protective relaying), describe how onsite safety systems are protected from voltage and frequency fluctuations that may result from offsite equipment failures or from natural phenomena such as lightning. Describe how the Class 1E system is designed to ensure that any offsite system malfunction or natural phenomena, such as lightning, will not prevent satisfactory accomplishment of any of the functions identified in 10 CFR 54.4(a)(2).

FPL Response

The St. Lucie Units 1 and 2 Current Licensing Bases require that the on-site, safety-related, Class 1E electrical systems be protected from the effects of natural phenomena, and protected against any significant electrical perturbations in the non safety-related electrical systems which may occur as a result of natural phenomena or other failures and/or events. This protection is provided as follows. First, the on-site, safety-related Class 1E electrical systems are physically protected from the effects of natural phenomena by their location within seismic Category I structures. These structures are designed to withstand the effects of tornado-force winds, missiles, maximum flood levels, and lightning. Secondly, the on-site, safety-related Class 1E electrical systems are electrically protected through the use of safety-related sensing and interrupting devices. These sensing devices (i.e., over/under voltage, bus differential, and overcurrent relays) and interrupting devices (i.e., power circuit breakers) are appropriately selected and installed to provide isolation such that any electrical condition on non safety-related circuits will not affect the ability of Class 1E circuits to perform their safety-related functions. A description of the design of the St. Lucie electrical system protection is provide in St. Lucie Unit 1 UFSAR Section 8.3.1 and Unit 2 UFSAR Section 8.3.1.

Per discussion with the NRC during the public meetings on September 4 and 5, 2002, FPL was requested to address the NRC May 16, 2002 letter entitled, "Proposed Staff Guidance on the Identification and Treatment of Electrical Fuse Holders for License Renewal." FPL agrees with the NRC position that fuse holders are passive long-lived electrical components within the scope of license renewal and that only those fuse holders that are not part of a larger assembly are subject to an AMR. FPL also agrees with the statement in the May 16, 2002 letter that, for the purposes of license renewal, fuse holders/blocks are classified as a specialized type of terminal block because of the similarity in design and construction. The fuse holders at St. Lucie Units 1 and 2 were scoped, screened, and included in the aging management review in the same manner as terminal blocks and other electrical connections. Accordingly, FPL's electrical scoping of fuse holders is consistent with the NRC May 16, 2002 letter.